The Builder.

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ILLUSTRATION.

Premiated Design for the German Parliament House, proposed to be Built in Berlin.—By Sir G. G. Scott, R.A., in conjunction with his Son, Mr. J. O. Scott 776, 777

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Congress of the British Archæological Association.

THE Evesham Congress must be pronounced very successful, and the proceedings during the week have been so well reported, both by provincial and London papers, that we should be telling a twice-told tale if we were to follow minutely the steps of the party. We shall confine ourselves to a point or two here and there.

Stratford-on-Avon.

The Mayor here was particularly happy in his address to the assembled members. It is not, he remarked, too much to say that we regard it somewhat in the light of a duty to welcome so distinguished a body, which numbers amongst its members men to whom Stratford is much indebted, prominently amongst them being the name of Mr. Halliwell-Phillipps. It is one of the sweets of life to turn aside for a time from the whirl of busy ceaseless activities, and seek recreation and repose in a loving contemplation of the genius of our forefathers, enshrined as it is in the countless monuments of this and other lands; and to search for, with filial fondness, those footprints on Time's sands which they have left us, a rich heritage indeed,—bright and ever-burning lamps,—so to speak, which, while they enable us to read the, in some cases, pale-faced handwritings of the past, reflect, as from some rich antique mirror, light which will enable many a student to inscribe the pages of time present and time to come. Ladies and Gentlemen, while it is the glory of our ancient corporations that they embody the principle of local self-government, which had its origin in a protest against the oppression of feudalism, and thus enshrine all that tends to manliness and self-respect, so in the culture of religious qualities, which, in England's people, have contributed more than anything else to England's greatness, they faithfully and wisely conserve and represent all that is oldest and best in the past, and foster and cherish what is newest and most worthy of aspiring to in the present. So is it with associations like your own, which combine a fond, tender veneration for the glorious memories of by-gone years, with an equally earnest longing desire to promote all that can ennoble and elevate mankind in the fleeting present and the peeping future. Permit me to remind you that you have come to visit a town, in size and population small, yet "big to fulness" with historical associations. These records so beautifully, so admirably arranged and tabulated by Mr. Halliwell-Phillipps, by the sanction of the Corporation, and under the care of Mr. Joseph Latimer, the Chamberlain, have been placed on these tables for your inspection. These records will take you back almost to the Conqueror's time. In their pages you will learn what an important Church history Stratford possesses, and most of England's early history is intimately connected with that of the Church. You will read how its present Collegiate Church was built upon the site of one which dated back to Saxon times; of its Chantry of Priests founded by that great ecclesiastic and statesman, John de Stratford, Archbishop of Canterbury; of the College wherein they found a congenial home, built for them by Ralph de Stratford, Bishop of London; of the Guild of the Holy Cross, and its chapel, so greatly indebted to one Robert de Stratford; and of the Grammar School, founded by good Priest Jolyffe.

A Vice-President of the Association responding to the Mayor's kind greeting, expressed regret at the absence, through indisposition, of the Marquis of Hertford and of Lord Houghton. He assured the Mayor and Corporation that it gave the members of the Association resident in London and other places, the greatest satisfaction to see how well the people of Stratford discharged their great responsibility in carefully preserving the antiquarian treasures connected with Shakspeare.

Clopton.

The visit to Clopton House, now the seat of Mr. Arthur Hodgson, after a long examination of Stratford and its old buildings, proved a very interesting and agreeable episode in the day's proceedings. Mr. Hodgson and his lady received a party of about 100, specially invited, at four o'clock, when a *déjeûner* was prepared in a tent erected outside Clopton House, and here, after entertaining his guests in most hospitable fashion (a peculiar feature in the entertainment being specimens of Australian wines), the paintings and Shakspearian relics in the house were inspected, and before retiring Mr. Hodgson read a very entertaining paper on the history of Clopton House, written in a genial vein, and eliciting the unanimous admiration of his audience. Mr. Hodgson, after going into the genealogy of the residents of Clopton House, and tracing the decadence of the Clopton family, mentioned some curious facts illustrative of the enhanced value of real property in modern times. He stated that in 1830 the Clopton estate of 280 acres was sold to a Mr. Lloyd for 16,500*l*. In 1873 he (Mr. Hodgson) bought the estate by auction for 38,000*l*. (more than doubling the value in forty years), exclusive of the value of the timber and the furniture, which in 1824 sold for 57*l*., but for which he had to pay 8,300*l*. in September, 1873.

The Bell Tower at Evesham.

At the first evening-meeting for papers, Mr. Blashill read a memoir by the Rev. Mackenzie E. C. Walcott, B.D., F.S.A., on "The Mitred Abbey of Evesham." The paper was remarkable for the research which it exhibited. It was illustrated by an excellent plan. One of the most important points raised by the writer was as to the age of the bell-tower, which is commonly assigned to Abbot Lichfield. An elaborate argument was brought forward to prove that it was built about a century earlier, probably by Abbot Zatten, a view which was also taken, he said, by Mr. J. H. Parker.

The Rev. A. H. W. Ingram combated the argument that the bell-tower was not built in Lichfield's time, and quoted from a Latin treatise, written by a monk of Evesham, in the twenty-second year of Lichfield's rule, and translated by Thomas Talbot, a Northamptonshire antiquary of the time of Elizabeth, who added the fact that "in his (Lichfield's) time the new tower of Evesham was built, which as yet is left untouched." He (Mr. Ingram) contended that the tower was more likely to have been built in settled times under the Tudors, than when the Wars of the Roses prevailed.

The Rev. N. G. Batt said there were many instances of a great amount of building having been done during the Civil Wars, as at St. Albans.

The Chairman (Mr. Godwin) said it was of no use the British Archæological Association coming to the town if such a point as that could not be settled. He would rather trust to masonry than M.S., and suggested a careful examination the next morning, which was agreed upon.

At the following evening-meeting, Mr. Blashill reported that, as arranged on the previous evening, Mr. E. Roberts, Mr. Godwin, himself, and others, who were conversant with the architecture of the period, had examined the bell-tower that morning, to form their own opinion as to its date, and had come to the conclusion that the tradition in Evesham, that it was built by Lichfield, was undoubtedly correct. He was glad to be able to confirm this tradition, and he sympathised with the feeling that prevailed in the town, as to the work of the most active and useful of the abbots of Evesham. The goodness of the architecture, notwithstanding some minor details to the contrary, would lead some at first sight to think that the tower was many years older than it was; but this might be accounted for by the supposition that it was built during the early part of Abbot Lichfield's career, which would be about the year 1514. He felt that he need not say anything to stimulate the people of the town to take care of the tower. It seemed to be an extremely rare specimen of the class of buildings to which it belonged. As it was almost the only real and nearly perfect remainder of the abbey, every inhabitant of the borough should feel an interest in it, and endeavour to develope its beauties and prevent its being hidden from sight. The walls on either side of it were detrimental to its appearance, and he could only express a strong hope that they would be removed, as well as every other obstruction which marred the beauty of this unique and noble specimen of architecture, so that its grand proportions might be displayed to their fullest extent.

The Rev. A. H. W. Ingram said he was glad to find that the documentary testimony he had produced was confirmed by the architectural evidence of the tower itself. To add to the proof already adduced, he found that Tindall, the historian of Evesham, gave the Latin inscription on the tomb of Abbot Lichfield, which translated, was as follows:—"Pray for the soul of the priest in whose time the new tower of Evesham was built."

Sir Stafford Carey said that in Dingley's as well as in Grosse's "Antiquities" there were views of the Evesham bell-tower as a specimen of architecture of great interest, and in both cases the tower was represented as being without the obstructions of the walls now on either side of it.

Mr. Blashill said it was due to Mr. Walcott to state that he argued that the words "new tower," quoted by Mr. Ingram, referred to the central tower in the Abbey, and not to the bell-tower. The question had, however, been decided upon the architecture of the tower itself, and not upon the rather vague documentary evidence.

Mr. Ingram said it was palpable that the words could not apply to the central tower, because Talbot, the antiquary of Elizabeth's time, referred to Lichfield's structure as the tower "which is left untouched"; whereas the central tower had then been demolished. He was confident that had Mr. Walcott himself been present he must have acknowledged himself satisfied by such convincing proof as had been brought forward to upset his contention.

The Vicar of Evesham said that they were perfectly alive to the importance of preserving the bell-tower. When they had finished All Saints' Church, they would have this tower thoroughly restored. But in the meantime a new roof would be placed upon it to make it water-tight.

The Abbey of Evesham.

Several papers were of course forthcoming on this subject. At one of the meetings,—

The Rev. N. G. Batt, M.A., vicar of Norton, read a very able paper on "The Abbey of Evesham, illustrated by the Lives of a Triad of its Abbots." The following is a summary:—The little town of Evesham is chiefly recommended to archæologists as the seat of a great abbey which, though scanty remains of it are left, flourished for more than 800 years, from its foundation in 701 to the dissolution in the sixteenth century. Its abbots were amongst the most powerful and wealthy barons in the midland counties. They were fifty in number. We shall consider the lives of three,—Egwin, Egelwin, and Lichfield,—who represent the beginning, the highest prosperity, and the fall of the institution. The story of the foundation of Evesham Abbey resembles the account of the apparition of the Blessed Virgin at Lourdes, in our own time. She was first seen of the swineherd Eoves, and then of his master, the Bishop of the Wiccians, Egwin, whom she charged to build a church in that place, then deserted and overgrown with thickets, but doubtless recommended by its agreeable situation in the fertile valley of the Avon, where the abbeys of Pershore and Tewkesbury were afterwards founded. The legend of St. Egwin's penance, when he locked his feet together, and threw into the river Avon the key, which a fish of the Tiber miraculously restored to him, was suggested by the gospel story of St. Peter finding a piece of money in a fish's mouth. Similar tales are related of other saints. Egwin, both in life and death, was very anxious to secure his abbey from spoliation, and to maintain its privileges. Thus, when an old countryman attempted to swear away land from the monastery, his beard suddenly dropped off in the presence of the saint's relics. The smiths of Alcester were punished for interrupting the saint's sermon, by an anathema which long prevented any one from carrying on the trade in that town. Norton Church is dedicated after St. Egwin, and his likeness is to be seen on the ancient lectern there, which once belonged to Evesham Abbey. He appears to have been a man of real piety, and of great energy and influence among his contemporaries, and may be regarded as the originator of civilisation and improvement in the Vale of Evesham. Egelwin, the last Saxon abbot, presided over the abbey at the time of the Norman Conquest, and was famous for his prudence and knowledge of law. He continued to be in favour with Edward the Confessor, Harold, and William the Conqueror, who did not deprive him of the office, like most of the other Saxon abbots and bishops, but gave him charge of the Abbey of Winchcomb in addition to his own, and advanced him to the government of several counties. So that it is recorded that no Saxon nobleman was so much trusted by William. Egelwin made a good use of his great wealth and authority, and fed a multitude of poor starving people, who had escaped from the devastation of the northern counties by the Conqueror. His kindness to the orphan children is particularly commended. He added to the possessions of the abbey and successfully defended them against usurping Normans. His successor, the first French abbot, mistrusting the genuineness of the abbey relics, which had not saved the English from defeat, submitted them to the ordeal of fire, out of which they emerged triumphant. Egelwin was the ablest of the abbots, and his mixed character has been too hardly dealt with by modern historians on account of his supposed want of patriotism. Clement Lichfield was the last real abbot of Evesham, and to his time belong the bell-tower, the chantry chapels in the parish churches, grammar school, the chief remaining buildings once connected with the abbey. It is wonderful how he was able to do so much, and embellish the choir of the abbey church also, since he was subjected to continual and heavy exactions by the King and Wolsey.

Buckland.

The excursion on the third day included Buckland, and the party on arrival proceeded at once to the church, where they were met by Mr. J. O. Halliwell-Phillips, who, as lord of the manor, welcomed the visitors, with the majority of whom he was well acquainted, through previous archæological sympathies. Here Mr. J. Robinson, architect, read a short paper on the history of Buckland, and described the church, which is a building of the thirteenth century, as regards the earlier portion, but it is also made up of specimens of many architectural periods, having been restored and repaired at different periods, and having thus become a rather remarkable and interesting illustration of various styles of architecture. In the chancel or east window are some beautiful specimens of stained glass, of a date antecedent to that of the church. This glass is supposed to have been brought from Hailes Abbey. It was evidently never intended for the window in which it now does service. Proceeding onwards, the party next inspected the Grange, at Broadway, formerly belonging to the Abbey of Pershore, and until recently used as the parish workhouse. Shortly after two o'clock, the party having all mustered at the Lygon Arms, Broadway, a *déjeûner* was served, after which,

Mr. Isaac Averill read a paper, prepared by Mr. J. O. Halliwell-Phillips, on "The History of Broadway." The main subject of the paper was a disquisition on the enormous labour required in order to do justice to a history of either town or village, and the immense number of records to be examined, the references to be made, and the time occupied in such investigation. The writer concluded with some curious particulars, showing that Shakspeare was quite familiar with Broadway and its neighbourhood, which might well have been the case, considering their proximity to Stratford-upon-Avon.

The old church at Broadway, disused for religious worship since the new church was built nearer the centre of the village, is principally remarkable for its monuments of the Phillipps and Russell families. The present pulpit appears to have been made out of the rood or chancel screen. The nave of this church is of Early English character, but the aisles and chancel are of the Late Perpendicular of the Tudor age. Some amusement was created by an ancient-looking inscription, which at the first glance appeared like a sepulchral inscription on a Roman columbarium, but which when read was as follows:—

"ASTHOWARTSOWASI, ASIAMSOWILTTHOWBE."

On Thursday Hailes Abbey, Sudeley, and Winchcombe were visited. Concerning the former,

Hailes Abbey,

Mr. Loftus Brock read a careful paper, and at the close conducted the party round the ruins, pointing out their character and history with much perspicacity and eloquence, and closing his remarks by expressing the hope that the noble owner of the property would cause the ruins to be excavated, and their foundations laid bare, as he felt certain that much valuable information would, by these means, be obtained. Mr. Brock's paper, and his remarks were greeted with well-deserved applause. The excursionists next proceeded to Sudeley Castle, the noble residence of Mr. J. Coucher Dent, where they were hospitably received and entertained by Mrs. Dent (Mr. Dent being unhappily detained on the Continent by ill-health) at a luncheon prepared for them under a tent erected for the occasion, in the quadrangle of the Castle. After luncheon, Mr. Cripps, on behalf of Mrs. Dent, bade the Association welcome, and after proposing the health of the Queen, which was most heartily responded to, and that of the Association, which was acknowledged by Mr. Morgan, F.S.A., the treasurer, Mr. Roberts proposed the health of Mr. and Mrs. Dent, in appropriate terms, in the course of which he remarked, amid loud applause, that Mr. Dent had in preparation, and intended shortly to publish, the history of Sudeley Castle, than which he could not conceive any more interesting addition to our historical literature. Next the historical, archæological, and art treasures contained in this noble pile, and forming the fit garniture of such a casket, were examined, but the number of the visitors, and the time at their disposal, permitted only a most cursory glance at the numberless objects of interest and beauty here assembled. To be appreciated the beauties and treasures of Sudeley must be seen, and this sight, be it recorded to the great credit of Mr. and Mrs. Dent, is never denied to those who seek it. After this inspection, Mr. Edward Roberts read an interesting paper on the history and archæology of the castle. Mr. Roberts dwelt at some length upon the architectural details of the castle, calling particular attention to the oriel window now in ruins, and which overlooked a pleasaunce, the site of which now formed the beautiful flower-garden which had been laid out with rare taste upon the lines of the old pleasaunce. He also detailed the history of the occupants of the castle from the creation of Ralph, Lord Sudeley, in the 26th of Henry VI., mentioning its grant to the Duke of Gloucester, afterwards Richard III., and the death and burial of Catherine Parr within its walls, and as an incident of note that her funeral sermon was preached by Miles Coverdale.

Friday was a day marked out for considerable work, including as it did Pershore, Deerhurst, and Tewkesbury. The party was divided, some going by water and others by carriages. The latter, in consequence of the refusal of the drivers to go so far as was needed, did not see

Deerhurst,

and, under the circumstances, we cannot do better than adopt the account of it given in the *Standard*, by a well-known local antiquary:—Not a student of Gothic architecture in England is unfamiliar with the existence of Deerhurst church. Its double angular windows, which look from the tower into the nave of the church, have been engraved many times as specimens of the architecture of the Saxon period of English history, and there are many who are inclined to give to Deerhurst an antiquity as a Christian Church, which is denied to Canterbury and Winchester. It is remembered that when Augustine came on his mission from Pope Gregory, and under the auspices of Queen Bertha and her husband founded the great monastic pile at Canterbury, he came northward, and found himself confronted by an organisation of bishops who belonged to the Christian Church, which had survived not only the persecutions of Diocletian, but the fire and sword of Pict and Saxon. It is said that Augustine met the British bishops in some portion of the Wiccian territory—some say in the neighbourhood of the rude stone circle which still exists at Rollrich, and others at an oak tree in the neighbourhood of Hentlebury, the present seat of the Bishop of Worcester. Whichever place saw the conference of the Christians of the older Church with the missionary of the Pope, it was not far from this old church of Deerhurst, whose tower still raises its head in the rich alluvial vale near the confluence of the Avon and the Severn, which, in far-off times, must have been secure from the invasion of strangers by the swamps which surrounded it. The church bears unmistakable evidence of belonging to the period which elapsed between the departure of the Romans and the advent of the Norman style of architecture. Its windows are rudely formed with slabs of stone, some placed anglewise so as to form a rude pointed arch, others form rectangular openings by the same means. The more elaborate specimens of masonry consist of the now-blocked-up chancel

arch, a door or two at the western end formed in the manner known to architects as long and short work. The rude masonry of the exterior shows many examples of "herring-bone" work. There cannot be a doubt that the church is of pre-Norman date, and, though subjected to many alterations and enlargements, yet presents the essential features of the original. The walls of the nave have been pierced with arches which date from the thirteenth century, whose curious caps are excellent models for the students of this era of architecture. The dip font is clearly Norman, and is placed upon what appears to be an older one of the same pattern of tracery. The tower was a point of great and singular interest. It is divided from north to south and from east to west. Passing up a rude newel staircase, the visitor speedily found himself in a small apartment, containing the double angle-headed window so well known to architects. On either side were circular-headed aumbries. It was pointed out that the fluting of the mullions of the windows was similar to the ornamentation of the chimney-pieces at Polesworth Abbey left unfinished when the dissolution took place—a remarkable instance of Roman influence on the earliest and latest work in our Christian edifices. One gentleman suggested that the room was the cell of an anchorite, but Mr. Edward Roberts, to a subsequent party, thought it was a place for refugees who sought the right of sanctuary here. This is the more probable as the small Priory of Deerhurst was not unknown in connexion with the shelter of persecuted persons in Mediæval times. This idea receives confirmation from the existence of two singular corbels on the west side of the tower, the appearance and form of which suggested that they were hoists employed to convey food and necessaries to the inhabitants of the tower. In the farm-house adjoining, which has been made out of the conventual buildings, there is a rectangular window of large size, filled with flamboyant tracery, and in the garden the corbels which supported the wooden roof of the cloisters on the south side.

It was quite late in the day when the majority of the party reached time-honoured Tewkesbury, and many had not time to do more than to glance at the Abbey Church. But Tewkesbury is full of interest. Some of its old houses are as picturesque as any in Bristol, Chester, or Shrewsbury, and well repaid inspection. The church of the old Abbey, now undergoing restoration, was the great centre of attraction. Its massive tower rears its head as it did in the days of Fitzhamons, its founders, at the latter part of the eleventh and beginning of the twelfth century. The immense circular arch at the west end, now filled in with a Perpendicular window, is a marked feature in the exterior of the church. The interior alone gives the visitor an idea of the grandeur of the old Norman buildings. Like Oxford and Gloucester, Tewkesbury still retains the massive circular piers of the aisles. These immense piers rise 30 ft. from the floor of the nave.

To Mr. Blashill's paper on Tewkesbury we will return. We must now hasten on to say, without notice of wonderful Alcester, that on Saturday, the modern mansion of Ragley was thrown open to all holders of Congress tickets and invited guests of the noble president, the Marquis of Hertford. At a little after two o'clock not fewer than 200 visitors thronged the saloon, galleries, and terraces of Ragley, where they were received by the marquis and marchioness, the Earl and Countess of Yarmouth, and a distinguished party of guests. A sumptuous repast was served in two of the largest rooms of the mansion, and after the toast of "The Queen," the Marquis gave, in the library, an interesting and graphic account of the treasures of the house; its association with Jeremy Taylor, with Horace Walpole, and other distinguished visitors, together with the history of the Conway and Throckmorton papers now in the national collection. The greatest archæological attraction was a fibula and other ornaments found with a few bones, strap-buckle, and daggers on the estate about thirty-eight years ago. The fibula is one of the finest known, and was pronounced Celtic in design and workmanship.

As Mr. George Wright's "cheerful horn," which had been most valuable during the whole week, gathered the party together for the last return to Evesham, there was but one feeling amongst them as regarded the evenly and universally extended kindness of the President-host and the Marchioness of Hertford.

The local *Journal* (in which good reports of the proceedings appear) says, after congratulating the town and neighbourhood, and the members of the Association, upon the success and pleasure attending the Evesham Congress,—"Amongst its results are a feeling of increased respect for the important work of the Association, and a quickened interest in the archæology and history of our town and neighbourhood." That is just the result which the founders of these congresses anticipated and desired.

SANITARY AND INDUSTRIAL RESULTS OF THE SESSION.

BRITISH MONEY ABROAD.

If the object and purpose of a Session of Parliament be the enactment of the greatest possible number of brand-new laws, the Session of 1875 presents a falling off, as compared with some of its predecessors.

But if the most useful functions of a body that is very far too large and indiscriminate in its composition to legislate, except in a very rude and empirical manner, be the elucidation of important questions by public discussion, and the enlightenment of that public opinion which is the actual source of legislative action at the present time, our reflections on the past Session may take another tone. There has been an intolerable amount of sack, indeed, to the half-penny worth of bread. But it is not so sure that the sack of discussion has not been [of more national utility than the bread of positive enactments. As a general rule, the nation has been taught how impossible it is to give due consideration to all the details affected by a great measure, if forced and hurried through Parliament. If this lesson had been truly learned, even had it been the sole result of the debates of 1875, they might have proved truly useful.

The Royal Message on the 13th of August takes credit for the passing of some fourteen measures through Parliament. Of these, three relate to the improvement of the law, as regards the transfer of land in England, entail in Scotland, and the procedure of the Civil Courts. Two are financial, bearing on the diminution of public debt, and the regulation of loans for public works. One concerns a local detail of ecclesiastical organisation, but has great interest in an architectural point of view, as it converts the most ancient abbey, and largest ecclesiastical building, in England, into a cathedral; which we may hope to see restored to something like its original beauty. Two are mercantile; one being the stop-gap and temporary measure for regulating merchant shipping, as to which so strong a feeling was awakened in the country; and the other relating to the registration of trade marks. The remaining six enactments have more direct reference to the industrial and the sanitary condition of the country, which has thus received a large proportion of the attention of Parliament.

Of these six new laws, the most considerable, in point of length, is simply consolidation. It has garnered up the large library of sanitary enactments into a single book. In so doing, as we pointed out when the Bill was under discussion, it has simplified the subject, made it more easy of comprehension, and more fit for well-considered improvement in detail. A positive gain, if not all that could have been desired, has been secured by this Bill. In connexion with the same subject, the main principle which must underlie any wise and adequate sanitary legislation on a large scale,—the demarcation of watershed districts,—has for the first time been acknowledged by the administration, in a clause of the postponed Bill for preservation of Rivers, which was unhappily swamped, in the absence of any such enthusiastic advocate as has taken up the cause of unseaworthy ships.

The Artisans' Dwellings Bill we discussed when introduced.

In the new laws relating to Friendly Societies, to master and servant trade offences, to the Law of Conspiracy, and to the conditions of agricultural holdings, there has been a total absence of incisive or violent change. Whether any real advance has been secured by either or by all of these measures remains to be seen. At all events, much discussion has been allowed. The views of different parties have been brought into publicity, and the difficulties attendant on all organic changes have received more attention than has been the case for some years. It is probable that discontent will be to some extent alleviated; but certainly we have had ample proof that it is not within the power of Parliament to offer that *panacea* which certain persons consider is to be attained by legislation.

More important, if rightly grasped, than any actual legislation of the session, has been the tremendous *exposé* of the unblushing robberies committed under the name of Foreign Loans. We feel a double interest in this matter. First, because the constant drain of the accumulating wealth of the industrial and trading classes of this country, which has been effected by the foreign "borrower," has prevented that outlay of the capital upon the soil of our own island which would have insured a tenfold return. Secondly, we may be permitted to add, because we have always endeavoured, so far as our voice was heard and our influence could reach, to warn the English public against that disposition of their available savings of which the "Loans" of the South American States form the most complete and full-blown example.

Intimately connected with this question of Foreign Loans, and of the importance which the press gives to the debates and reports of Parliament and Parliamentary Committees by publishing the warning thus addressed to the unwary, is the subject of that Roman Improvement Scheme, as to which we addressed a warning to our readers in our number of the 20th of March last. A more recent number very fully justifies that warning. We wish our readers to feel assured that we speak with, at least, as much positive and direct experience of the procedures of those who invite English capital to flow abroad as does the Committee on Foreign Loans. Colossal as may be the roguery in some instances which they have pilloried, it differs only in degree, not in kind, from the ordinary routine. Foreigners who ask for English money mean to keep it, if they can get it. That is a safe general rule. What they may be induced to pay for the use of it, depends mainly on the chance they have of borrowing more, by dint of keeping up a decent character. When no more capital can be "borrowed" the amount of interest paid on that already obtained rapidly tends to a vanishing point. That lesson is so old, so repeated, so unvaried, that it is a marvel that men are always ready to burn their fingers in the same way.

It should be borne in mind that, apart from the question of absolute necessity, the laws, the sentiments, and the habits of business of all foreign nations differ materially from our own. A man of integrity and honour, apt to the discharge of business in this country, even if he be familiar with the language of any part of the continent, is as incompetent to carry on business abroad, until he has served a long apprenticeship to the particular occupation and locality in question, as a fine boy of eighteen, fresh from Eton, would be to manage a City bank. We can see, in a moment, where an English engineer is likely to have been misled, from the very straightfordwardness of his nature, and his expectation of a similar conduct in those whose names he had learned to respect. Thus we find the receipt of instructions "in the presence of an English gentleman" mentioned; the idea being that the evidence of a third party would be decisive. Nothing can be further from the fact in Italy. Personal evidence, as a rule, can always be thus obtained in any sense that is wished. If a disputant rely on the probity and high character of a single witness, he will be discountenanced by the preponderance in *number* of the utterly unexpected witnesses who will appear in Court to contradict him. Thus the case must really depend on the "instructions in writing" alone. If these are clear, precise, legal, and formally bind General Garibaldi to pay the professional costs of the English engineer, the latter may have a hold on that patriot under Italian law, and possibly, in some ten or a dozen years, may obtain judgment, if his debtor be then alive. If there is the least screw loose in them, he had better put up with his present loss and disappointment, and set both down to the cost of professional education.

But even if a positive liability were formally contracted by Garibaldi towards Mr. Wilkinson by a written instrument, it would remain to be seen how far, if at all, this was condoned or modified by the demand of the 12th of April, and the concurrence of Mr. Wilkinson in presenting this demand to the Minister of Public Works. This demand, however "favourably received," seems never to have been formally accepted. The Italian view, no doubt, would be that Mr. Wilkinson had incurred his own risk, in a sort of quasi-partnership with the Italian would-be *concessionnaires*, and that the whole thing fell to the ground together. This upshot, unless every

nail were clinched as soon as it was driven by an able Italian counsel, would certainly have occurred on the tempting though imaginary offer of a quarter of a million of francs.

All the subsequent steps, down to the characteristically just and considerate promise of a transfer to a company which should make a large outlay in the vague hope of a concession, are so exactly according to the regular routine in such matters, that all we can suggest, as at present advised, is that Mr. Wilkinson should publish the fullest details of the whole affair. If he, like other men in his profession whom we could name, is to be nailed to the door of the barn, let us at least hope that the operation may be effective, by way of scarecrow, to keep other English engineers and capitalists from following the same path,—a path like that to the lions' den,—in which all the footsteps point in the same direction.

Whether we look to the English or the Italian Parliament, to sanitary and river protection Acts, or to concessions for reclamations, ports, and harbours, we see everywhere the same indications. We are looking in the wrong direction for the employment of our money. We are in such a hurry to become rich, that we remain, or worse, become, poor. Our own island offers a fairer field for the remunerative outlay of capital than is to be found, as a rule, in any other part of the world. To drain, irrigate, plant, cultivate, build, at home, promises a sound, certain, and ample return,—wisdom directing the application. If we venture our sovereigns abroad, it will probably make little difference, a few years hence, whether it is to make a ship canal in America or a port in the vicinity of the Pontine Marshes.

THE FURNITURE RENAISSANCE IN FRANCE.

For several years, a revolution in public taste,—to which, in Paris, the above rather pompous title is given,—has been taking place among the wealthier classes in France, against the flimsy, showy, tricky style of furniture so long characteristic of that country. But it is only of late that the reaction has reached a high and wide development. Most persons are familiar with the ordinary components in the arrangements, for comfort and decoration, of a Parisian drawing-room; a profusion of gilt and mirrors; of richly-coloured damask or velvet; of elegant tables, chairs, and trifles, very choice of aspect from the upholsterer's point of view, by no means cheap, and better calculated to look than to wear well. At several successive Exhibitions, including that of the present season, attempts have been made to introduce a better fashion, and, without abandoning splendour, to combine it with solidity. It was as a protest, indeed, against the modern or sham method, that a class of purchasers arose who refused admission into their houses, whenever possible, to nineteenth-century fabrications, and who ransacked the remotest quarters for specimens of the older and more substantial manufactures. There was, perhaps, a touch of pedantry added to the dislike of that which is popularly called the gim-crack order of things, with a little admixture, possibly, of affectation; yet certain it is that, in France especially, anything having about it the odour of an ancient château was competed for by greedy buyers in the great bric-a-brac market,—if that term may be extended so far. The wonderful progress in the art and mystery of cabinet-making, in the manipulation of wood, in the production of thin veneer, in staining and imitation of every kind, resulting in work which would not withstand the slightest shock, or the least change of temperature from wet to dry, or the contrary, was carried in fact too far, and French furniture became nothing less than a byword for meretriciousness and, comparatively speaking, worthlessness. Of course, as in all such cases, the new idea speedily grew into exaggeration, and equally, of course, it called forth a supply as spurious as are thousands of relics in Italy, and thousands of antiquities in Egypt. The genuine treasures of past centuries were naturally soon exhausted; and when all had been bought that could be repaired, patched, vamped, and strengthened by invisible braces, the shops were gradually filled with another description of bargains for the amateur; objects looking older than the oldest that had really once belonged to the family castles of Provence or Tourraine; huge chests and cabinets drilled with artificial worm-holes, covered with iron clamps of Mediæval appearance, requiring a good deal of labour to rub off the rust of time; and chimneypieces browned by the wood-smoke of ages ago. The fraud may not have been a particularly heinous one; but it was felt by the higher class of manufacturers that it might be practicable to supersede the "red-and-gilt" style, as it was contemptuously called, by one which, while it restored the old characteristics of French furniture, should not pretend to be based upon any except new materials. This gave rise to the experiment of working "in the solid." Not that it had not been practised, to a considerable extent, previously, in France as elsewhere; but that it had left the general fashion untouched, though, as we have said, a taste for the antique had spread so far that, according to a Parisian satirist, even the grandest salon was regarded as incomplete without, at least, one stool, with twisted legs, that dated from the Middle Ages. Artists, no less than mechanics, were required to effect the innovation, and they were found before long, for the genius of the French workman is exceedingly plastic. At starting, on all hands, marvellous mistakes were made, and the promoters of the Furniture Renaissance fell into the error of imagining that nothing could be an improvement on the gew-gaw mode unless it were sternly Mediæval, while, on the other hand, an eclecticism sprang up founded upon equally ridiculous principles. There is one well-known example of this in a large and brilliant villa, thoroughly Italian in its architecture, on the outskirts of the capital. The proprietor, who designed the building, externally and internally, prescribed, also, the way in which it should be furnished. The ante-chamber, the dining and smoking rooms, and the library,—all spacious apartments,—were assigned to the age of Louis XIII.; the drawing-room, in white and gold, to that of Louis XIV.; the bedroom, profuse in carving and gilding, to that, again, of Louis XIII., or the commencement of Louis XV.; and the boudoir to that of Louis XVI., with three other chambers, one Chinese, another Persian, and a third purely fantastic. As a sarcasm upon this, a neighbour boldly ordered his abode to be furnished, from roof to basement, in "the style of Napoleon III." It does not follow, however, that a design was tasteful because it was in vogue under any "Louis." A notorious dance of our own time derived its name from an arm-chair, with hideous sprawling legs, called a Can-can.

But these were not the most important points which related to the design and construction of furniture, and led to the education of a large class of Parisian artisans. A few enterprising firms took the lead, collecting models, drawings, manuals, and so forth, chiefly directed against the use of veneer, and to the revival of a purer taste. It is interesting to visit a workshop where, on a large scale, the process of manufacturing from the solid wood is carried on. Every incident in the history of the tree, from the felling in the forest, is illustrated here, or in the adjoining yards; the stripping off the bark, the rough-hewing of the trunk, the sawing into planks or squares, the drying and seasoning. These last are, it is needless to say, highly important details, the French system differing somewhat, however, from the English. Their technical phrase is "mummifying" the timber. Occasionally they employ heat and the smoke of burnt sawdust, when the necessary result is obtained in about two months; but the cases in which this method is practised are special: the approved rule is for wood to be converted into furniture, to be stacked, with ventilating intervals, in the open air, for fifteen years, which, however, keeps stagnant an amount of capital so large that few manufacturers can afford it. He would be a fortunate inventor, in France, who should teach its great furniture firms how to hasten the process without, as they express it, cooking the wood, and decomposing its fibre. For it is this that renders the best qualities of make so costly. Indeed, not many houses can allow their money to lie thus at rest. It is like the planting of trees, and waiting for their growth. In one yard, a little beyond the old barriers, may be seen stack upon stack, belonging to a single firm, of oak, walnut, pear, beech, elm, alder, maple, linden, and willow, worth from 800*l.* to 1,000*l.* each, continually dwindling, and as continually replenished. Each log, or plank, as its turn comes, is piled in a covered shed, with palisaded sides, through which a current of air constantly flows, having been previously, however trimmed by the axe, to get rid of any decayed parts, and, in company with the commoner sorts, are mahogany, amaranth, sandal, and cedar wood. Here they remain until sent for. A customer has come with an order: he selects, from the books of design, one which suits him; sometimes it is the architect himself who undertakes this responsibility. A plan on a small scale is sketched, and submitted; if approved, one of the full size is drawn, and given to the joiner, who goes to the yard with an order for the wood he requires. Then, through sheets of cardboard, each marked in pencil as a part of the pattern, and stretched on the planks, panels, or blocks, fine holes are pierced, indicating exactly where the saw should pass, and much ingenuity is shown in economising material. It is unnecessary to follow out the process in detail. The saw does its work, and the several pieces are taken to the joiner, who finishes them up to a certain point, whether by hand or by machinery; the latter, in some of the Parisian factories, being surprisingly effective and simple. But a minute description of it would go beyond our purpose. Every fragment is now ready, so far as the joiner is, at present, concerned with it, and the whole is passed over to the chief, or foreman, of the carvers, or "sculptors," as the Parisians prefer to call themselves. There are, in some establishments, more than 200 of these employed; but they do not all work in the shop. Many take their task home, to complete, single-handed, or with the aid of assistants. They come to "the house," take the parts assigned to them, with the original designs, and bring them back when finished. Still, the interior of a large workshop presents a scene sufficiently animated, and even grotesque. You see an enormous block, which a "sculptor" is converting, by means of a chisel, into a trophy of figures and foliage. It is not far advanced, but is evidently intended to be a chimney-piece, on the most massive scale. That which we particularly noticed was a "commission" for the painter, Gerome. The wood is treated precisely as though it were marble, and behind it, a little raised, is the model, in plaster, from which the artist works. The whole is in a single, solid piece. The walls are covered with similar models, in plaster or terra-cotta, of the human figure, animals, flowers, and ornaments; while, hanging from the roof-beams are masks, bas-reliefs, and squares of cardboard enriched with elaborate drawings. Against a partition dividing the joiners from the carvers, lean statues of nymphs, goddesses, and heroes, often of full size, and the half of an oaken Venus swings like a figure-head from between two beams. Two long tables run between the partition and the windows, covered with tools and pieces of wood, of various dimensions and in various stages of manipulation, which are passed from hand to hand as they progress. Thus, one may carve a face, and pass it on to have an animal, or a garland, or some ornament combined with it, and, of course, a greater nicety is required when the sculpture is to remain in its simplicity, without being painted or gilded; but one principle is invariable: if a panel requires, so to speak, a foundation and a cornice, all three must be wrought from the same piece of wood; there must be no nailing, no glueing, no veneering. The carvings finished, they are returned to the joiners, who put them together experimentally, with glue; for this, as we have said, is forbidden, as well as pegs, in the completed work, which ought to fit into itself, everywhere. That, at any rate, is the theory of this Parisian Renaissance. They next "try on," to use a tailor's term, the ironwork, manufactured often by the same firm, — locks, hinges, screws, and castors. The piece of furniture is then finally built up, and lowered into another shop, to receive the last touches for beautifying and preserving it. And when this has been done, the contrast is evident, to the most unpractised eye, between, for example, the deep, glossy, smooth-surfaced black, dense as ebony, of some furniture displayed at recent Exhibitions, and that of another quality which has been painted black and then varnished; but the process required by the former, calling in the services of powdered charcoal, logwood, dissolved in oil, sulphate of iron and gall-nut, linseed, and essence of turpentine, and endless brushings with dog's grass, and rubbings with flannel, is, of course an expensive one, though the result is equivalent; a surface indelibly tinted, and a substance unassailable by insects. These, at all events, are the pretensions put forward in the *ateliers* of the new fashions in French furniture. Oak and walnut, it need hardly be said, are variously treated, while other woods, finely veined by Nature, receive only the treatment necessary for

their preservation. Not, however, to be betrayed into lingering among these minutiæ, interesting though they are, attention may be pointed to the fact how extensively this comparatively new style is to be met with in the better shops, and, therefore, in the better houses, of Paris; whether in the shape of chests (the French always had an almost Venetian fondness for them, and put them everywhere possible), tables, chairs, bedsteads, panellings, wainscot, doors, and cornices, to the dire defeat of gilding, which peels off, of that ghastly white paint, which turns to a ghastlier yellow, and that poor pretence of richness which deceives the eye in French hotels and English taverns. And with this, a gradual change is manifesting itself in another,—and it will, perhaps, be thought a more questionable respect,—the more general introduction of carpets, though, in what has been said, no idea existed of instituting any comparison between English and French furniture, or French and English furniture custom, if the phrase be permitted. The object was to point out a distinct and remarkable growth of taste, in Paris especially, and a wide, though far from general, repudiation of that style, which, a few years since, was almost universal, and for which, on account of its very frivolity, and its shallow ostentation, the French claimed the palm of elegance,—a style made up of cheap velvet, cheap gilt, and bad cabinet-work. But it may be worth repeating, that a very superior order of art-mechanics has been created by this movement of fashion and taste in France. Formerly, they would, or a large proportion of them, have been sought for from abroad, from Italy, or from the Low Countries. As it is, they have sprung almost exclusively from the industrial ranks of France herself. Nor are their numbers inconsiderable. One Parisian establishment alone employs upwards of six hundred, in the several degrees, at wages varying from 5f. to 25f., or 1*l.* a day; and to indicate the rapid advance of this Renaissance (the term in its special application here is not our own), it is necessary to say no more than that the manufacturers complain of a pressure upon their resources which interferes with the development of artistic progress in the design and fabrication of furniture.

FRENCH CRITICISM ON THE ART OF *PUNCH*.

In noticing one or two recent numbers of the serial entitled *L'Art*, we mentioned that one of them (No. 30) contained an article on *Punch*, under the head of "*La Caricature Anglaise contemporaine*." It is interesting, in more ways than one, to know how the designs of our leading satirical paper strike a foreign art-critic. What M. Champier, the author of the article in question, first remarks on is the good-humour of the caricature in *Punch*, as compared with most foreign work of the same class, and with English caricature of a past generation. In the latter, everything that could give grotesque and almost brutal force to the caricature was unsparingly employed. The artists of the present day, among whom are specially mentioned Messrs. Keene, Sambourne, and Du Maurier, follow what the critic thinks a special tendency in England to emphasise purity of form at the expense of *gaieté*." M. du Maurier, above all, "in his scenes of child-life, of such pure and graceful drawing, seems bent on withdrawing his art from the freedom of caricature to enclose it within the stricter limits of realistic representation, insomuch as his sketches are not so much satires as charming *genre* pictures." Looking to one or two of the artists who have passed away, M. Champier compares Cruikshank with Leech, and observes that the latter carried on the talent of the former with another quality added, viz., the power of beauty, which had hardly before his time been found co-existent with that of satire or caricature. In the early illustrations to Dickens by "Phiz" (which cognomen, with true French exactitude in such matters, is given as *Phy*), "feminine beauty is as rare as in the works of Hogarth" (is it so rare in these latter?); whereas Leech's young women have genuine charm.

M. Du Maurier, however, occupies the bulk of the article and the illustrations, as in fact we might expect. A few facts are recapitulated as to the life of "Georges Louis Palmella Busson Du Maurier," who is a native of Paris and was educated as a mining engineer, but gave up his profession for the study of drawing, and became in 1857 a pupil of Gleyre, and after some travels in Belgium and Germany for further study, settled (fortunately for us) in England. He ought to be considered, says the French critic, "as the most authorised representative of the contemporary caricature of manners in England. Nothing can surpass the charm of some of his infantine scenes. We recognise the influence of the celebrated painter from whom he received lessons, and one comprehends the precision of his efforts in learning what minute care the artist bestows upon them. In a letter which we received from him lately, he says, 'I design my figures with as much care, and look out for models as conscientiously, as if I were going to make an oil painting.'" This we can readily credit, though in regard to the infantine scenes we may say that Leech has done things which M. Du Maurier has never equalled; and the same in regard to ladies, who have far more variety of style and character in Leech's hands than the type, elegant and graceful as it is, to which M. Du Maurier almost entirely confines himself. The succeeding remark of M. Champier is worth attention:—

"We cannot but say, however, that this is not caricature. The artist will object, perhaps, that he is condemned to a good deal of reserve by the very journal to which he is a contributor, and which, having the *entrée* of all the family circles, must be such as can be turned over without danger by young girls. We should reply that the field of caricature is vast, and that it cannot be traversed by an artist (whatever his talent) who confines himself to representing small and rebellious children, ladies of a refined beauty, with low foreheads, necks like a tower, long and delicate arms, garments of subtle shades which surround their persons with glancing reflections, and in the languid grace of which one discovers, as an English critic lately observed, a taste of the old Chinese and Japanese affectation."

We should have said the *new* Japanese affectation; but the criticism is a true one; and though we should be very sorry to see our friend *Punch* parting with the unblemished purity of his manners, and rendering himself a questionable guest in any English family, the fact of the intellectual limit imposed on caricature by the influences named can hardly be doubted. In England, in fact, literature and art are fenced in at all points by certain canons of respectability and propriety. The result is an undoubted gain to the majority, but it involves some loss to a rather important minority, including the artists themselves. We are quite ready, however, to regard the moral gain as more than balancing the artistic loss; and may point out that French critics of greater calibre (M. Taine, for example) have referred to the purity and good manners of English caricature as a notable point of superiority over that of their own country.

The designs by Du Maurier selected for republication in the French serial include a shop scene, a schoolroom scene (the definition of "duty"), and two *scènes de salon*, one being the celebrated episode of "The Misses Bilderbogey," which name again the French writer, with characteristic error, metamorphoses into "Rilderbock," thereby, of course, losing the significance of the semi-German compound, in its indication of the æsthetic character of the young ladies. One of Mr. Sambourne's most masterly costume caricatures, the half-length of a girl with a "coiffure à la Marlborough," forms another illustration, but only gives one side of that artist's remarkable and admirable talent.

The article, in spite of its general title, is specially directed to the caricature of *manners*, not to political satire, which we presume is the reason why the name of Tenniel is passed over; the omission, except on such a supposition, would, of course, be simply absurd.

A HITCH IN THE LAMBETH NEW INFIRMARY CONTRACT.

The contract for the new infirmary at Lambeth is causing some difficulties and misunderstanding. We stated in last week's *Builder* that pending inquiries into the financial position of Messrs. Tarrant & Son, whose tender was the lowest, the Guardians had postponed their decision as to the acceptance of any particular tender. At the meeting of the Board last week the special committee appointed to investigate the capability of Messrs. Tarrant & Son to carry out their tender, recommended that the tender should be accepted; and on Mr. Tarrant being called in he stated that he had read the conditions of the contract. Subsequently, in answer to a question, he said he was not prepared to execute the work in eighteen months, as stipulated in the articles of contract, which he had not before had an opportunity of reading. It was then represented to him that if the building were not finished within that period the penalties would be rigorously enforced, whereupon Mr. Tarrant stated that in that case he would withdraw his tender, at the same time stating that he could complete the building in two years. After he had left the board-room, a discussion took place on the subject, when the chairman observed that eighteen months was a very short time for the erection of such a building. On the other hand, Mr. Taylor, one of the members, stated that the tenders had been invited upon the understanding that the work should be executed within eighteen months. If the time were extended every one of the firms who tendered ought to be apprised of the fact, inasmuch as if some of them were aware that a longer time would be allowed they might be able to reduce the amounts of their tenders. Having determined upon the question of time they ought not now to reconsider it. Mr. Higgs said he had been given to understand that not one of the firms who tendered was aware of the time in which the works were required to be finished, but Mr. Fowler, the architect, said that was not so. It was then decided to inquire into the capability of Mr. Taylor, who had sent in the next lowest tender, to execute the work. It may be stated that there is only a difference of 400*l.* in the tenders of Mr. Tarrant and Mr. Taylor, the former being 53,200*l.*, whilst that of the latter is 53,600*l.*

SALE OF FAIRLAWN COTTAGE, KEW-GREEN.

Fairlawn, a well-known historical residence at Kew, was sold by auction last week, at the Mart, by Messrs. Fuller & Fuller. Fairlawn, with the grounds attached to it, immediately adjoins the residence of H.R.H. the Duchess of Cambridge, on the south-east side, the Tichborne and Doughty estates being on the north-west. The conditions included a statement to the effect that one portion of the property was vested in the vendor "under an assignment from the trustees of the will of the late Roger Charles Tichborne, esq., deceased, for the residue of a term of 1,000 years," and the condition added that "the purchaser shall assume that the said Roger Charles Tichborne died on or about the 26th of April, 1852, and that the said term passed by his will, as part of the Doughty estates, thereby devised and bequeathed for sale, and that the same is free from any of the incumbrances and powers of charging in the said will mentioned." The property was put up at 800*l.*, and after some spirited bidding was sold for 1,330*l.*

ENLARGEMENT OF THE HASTINGS INFIRMARY.

The Governors of the East Sussex, Hastings, and St. Leonard's Infirmary having decided upon a material enlargement of the building, or erecting a new one, resolved upon consulting Captain Galton as to the capability of the present structure for enlargement, or the erection of a new building on a new site. After inspecting the building and other sites, Captain Galton has just reported to the Governors, in which report he speaks favourably of the present site on the sea-shore, well sheltered from the north, and with a nearly due south aspect. He had inspected two other suggested sites, but they were open to objection from their exposure to northern winds, and also cut off by houses in front from the view of the sea, which, he states, together with its sheltered position, is the striking characteristic of the present site.

After suggesting several structural alterations in the internal arrangements of the existing building, with the view of improving its sanitary condition, the introduction of ventilating fireplaces, and the cutting off of the hospital drains from the main town drains by efficient traps, he recommends the addition of another story to the building, and the erection of a new wing, to provide two large additional wards, and a small ward, which together would give seventy beds, as against thirty-two, which is the present amount of accommodation. The expense of the new wing cannot, he states, be assumed at less

than 3,800*l*. The erection of the extra story would not be less than 3,000*l*., whilst the minor alterations suggested would amount to between 300*l*. and 400*l*., including the reconstruction of the dead-house, and the re-arrangement of the basement, which would be necessary to provide the required kitchen accommodation. The total estimated expense of the enlargement and alterations would thus be about 7,200*l*.

HOUSES IN THE PHILIPPINE ISLANDS.

The inhabitants of the Philippine Group are, as a rule, bad masons, and but indifferent carpenters. The houses of the better class are fairly constructed, but the huts of the masses are much the same as those of the Malays of Borneo and other parts of the Indian Archipelago. They have plenty of timber, enormous forests being still untouched in most of the islands, and an abundance of cheap Coolie labour to render the cost of transport comparatively light. Apart from the bamboo, one of the most precious productions of the country, from its adaptability to the wants of the Indians, they use to a large extent molave, a wood of extraordinary durability against damp and wet, even when enclosed in mud and masonry. It is very hard, of a short, close grain, of a pale yellow colour, and susceptible of a high polish. It is much prized for piles, and for columns or piers, forming supports to houses. They have a beautiful hard yellow wood, spotted with large blotches of black, which makes very handsome furniture. It is called camagou, some specimens of which resemble the walnut; and another kind also well adapted for furniture, panelling, &c.,—a red wood, with close grain and visible pores. Some varieties have been confounded with mahogany, from the appearance of the veins.

But the bamboo is the material used by the great masses of the people, and with it they construct scaffolding, houses, bridges, cables, tools, and weapons. In the pueblos or villages which form the suburbs of Manilla, the native dwelling is raised from the ground on wooden supports, and is reached by a ladder. Bamboos form the scaffolding, floors, and principal woodwork, the walls and roof being clothed with the leaves of the Nipa palm. A mat, a table, a rude chair or two, some pots and crockery, pictures of saints, and some trifling utensils, comprise the domestic belongings. Almost every house has a garden, with its bamboos, plaintains, and cocoa-nut trees, and some with a greater variety of fruit. Each pueblo has its *gallera*, or amphitheatre, for cock-fights; for this is the favourite amusement, nay, the delight and business, of the male population. The galleras are large buildings constructed of palm-trunks, bamboo, and nipa-leaves, consisting of a hall lighted from windows in the roof. In the centre is a stage raised about 5 ft. high, surrounded by bamboo galleries for the convenience of spectators. From these places the Government draws a considerable revenue, such is the craze for cock-fighting among the Philippinos. Indeed, it is carried so far, that while a man's children are crawling about his house and garden, and the women hard at work, he will most probably be seen lounging about with his game cock under his arm, or meditating on the prowess of the *gallo* in attendance on the *gallinas*.

The better class of houses in Manilla are substantially built of stone, brick, and tiles. They are usually rectangular, having a court in the centre, round which are shops, warehouses, stables, and other offices, the families occupying the first floor. Towards the street there is a corridor, which communicates with the various apartments, and generally a gallery in the interior looking into the court. The rooms have all sliding windows or frames, fitted with *concha* or plates of semi-transparent oysters, which admit an imperfect light, but are impervious to the sunbeams. A large cistern in the court holds the water which is conveyed from the roofs in the rainy season, and the platform of the cistern is generally covered with jars of flowering plants or fruits. The first and only floor is built on piles, as the fear of earthquakes prevents the erection of elevated houses. The roof is ordinarily of red tiles.

Though there is some variety in the houses of the natives in the interior, according to their opulence, they preserve a common character, having bamboo floors, nipa roofs, and wooden pillars to support them. Either supported by a post, or projecting from a window of the house, is usually to be seen a little bamboo frame, containing a supply of food or fruit from the Indian garden which invariably surrounds the dwelling. Any passing traveller may help himself, paying nothing if he be poor, but otherwise leaving such compensation as he may deem proper. This surely is a very pleasant custom.

Although naturally an indolent people, the Philippinos might be brought to a more energetic condition were the Government to perform no more than its own natural functions. As it is, it occupies the anomalous position of merchant and ruler. The commercial system is, in consequence, confined within official channels, and the great agricultural resources of the islands are but partially being developed. The tobacco leaf is one of the principal productions in these regions. The provisions for its culture are very arbitrary; in some provinces the people are permitted, and in others prohibited, to engage in its cultivation. The leaf must be furnished to the Government at rates which are anything but remunerative to the producer, and finally it is manufactured and sold by the authorities. When it is said that the peasant is often compelled to borrow money at exorbitant rates to enable him to support his family until such time as he becomes reimbursed for the value of the tobacco supplied by him to the Government, it must be admitted that the condition of the growers is by no means enviable. Nothing, however, in the shape of land-tax presses on the shoulders of the inhabitants. Permission is only granted to the peasant to hold land during the time he chooses to cultivate it. Should he neglect cultivation for the space of two years, it is liable to be forfeited to the Government,—a regulation which has the effect of preventing large tracts of country from falling uselessly into few hands.

The price of land in the vicinity of Manilla and in some of the more fertile parts of Bulacàn is valued at 140 dollars the acre. In Pangasinan its average value is about 30 dollars; in Negros it varies from 2 dollars to 16 dollars the acre; but where population is scanty, as in parts of New Ecsija, it is to be purchased at an almost nominal rate.

The price of skilled labour varies from 37½ cents to 62½ cents a day for carpenters and masons. Coolie labour costs 4 dollars per month and maintenance. Shipwrights working in the river receive 50 cents a day; if working in the bay 1 dollar.

Various stuffs, called pina, sinamais, and nipis are manufactured in the islands of Panay and Luzon. Pina is made from the fibre of the pineapple tree, and when worked with silk is a very elegant commodity. But many of the native manufactures being anything but durable, and, moreover, very expensive, they are becoming rapidly superseded by European goods. Hemp cordage is wrought in the provinces of Albay, Camarines, and Manilla; and great dexterity is displayed in the making of mats, baskets, hats, cigar-cases, &c.

NEW LIBERAL CLUB IN WARRINGTON.

The necessities of an increasing number of members of the Liberal Club having for some time past outgrown the original provision made, several of the leading men connected with the party secured the residence of Mr. Rylands in Bewsey-street. Messrs. Pierpoint, Hughes, & Pierpoint, were entrusted with the preparation of plans, and the contract for carrying out the work was given to Messrs. Ostle & Taylor, builders, Warrington. A new billiard-room has been erected, 69 ft. by 35 ft., in which five billiard-tables will be fitted up. A platform, 4 ft. wide and 1 ft. above the level of the floor, runs round the room, and will afford ample accommodation. The room is lighted by a continuous skylight on each side of roof, whilst the artificial lighting will be provided for by means of a gas sunlight over each table, and attached to the ventilators in the roof. Underneath the floor are three compartments. The centre part will form a heating chamber, and the warm air from the hot-water pipes will be diffused throughout the billiard-room by means of perforated grids, one being placed under each billiard-table. The two side chambers will be supplied with cold air, and by means of movable ventilators in the floor the temperature of the room can be regulated with nicety. The walls are stuccoed and finished so as to prevent the appearance of stonework. An adjoining room, 24 ft. by 20 ft., will also be fitted up as a billiard-room, and will be provided, as well as the larger room, with lavatories and closets.

The reading-room, which adjoins the entrance-hall, is 24 ft. by 18 ft. It was used as a drawing-room by the late occupant, and some historical pictures are painted on the walls. A refreshment-room, 24 ft. by 11 ft., also occupies the ground floor, immediately adjoining the kitchen. The principal room on the first story will be 27 ft. by 20 ft., and it is intended to be used as a conversation-room.

The structural alterations and additions, and the fitting up of the establishment, will cost something like 1,500*l*.

FRENCH ASSOCIATION FOR THE ADVANCEMENT OF THE SCIENCES.

This Association, the plan of which is a close imitation of the British Association for Science, has been holding its congress at *Nantes*, and a number of valuable papers have been read. In the programme of the first day appears the intimation, "Punch will be offered to the members of the congress at the Hôtel de Ville," a precedent for which does not exist in the British arrangements. We take no exception, however, to it, being ourselves of a rejoicing turn of mind, and well disposed towards all friendly junketings. The punch was given in the evening in the *garden* of the Hôtel-de-Ville, which was brilliantly illuminated with lamps and Chinese lanterns, and the statues were brought into relief by coloured fires. The punch (hot) was followed by a speech from the mayor, and then came champagne.

The theatre was decorated tastily for the president's address, and brilliantly attended.

On Saturday, the 21st, one of our countrymen, Dr. Phené, delivered an address on the habits of the cave-men of Western Europe, in the Anthropological Section of the Association.

The chief point of the lecture was to show, from a similarity of *crania* and works, that the customs of the people of the neolithic age were the same both among the Dolicho-Cephali, or long-skulled people, and the Brachy-Cephali, or broad-skulled people.

The discoveries of Dr. Broca, Dr. Prunières, and others, were quoted in the presence of those *savants*, and compared with cave explorations made in France and Spain by the lecturer.

Admiral Ommanney, in the discussion on the paper, gave some detailed particulars of the discoveries in the Genista caves at Gibraltar, at some of the explorations in which he had been present with Professor Busk.

Dr. Jackson, F.R.A.S., read a paper on "Falling Stars," and exhibited the rare maps, published by the British Association on Astral Science.

THE NEW RESERVOIR FOR THE LIVERPOOL WATERWORKS, AT RIVINGTON.

Although the Corporation of Liverpool have resolved upon the construction of new waterworks at Bleasdale, about fifty miles from the town, in accordance with the report and designs of Mr. Bateman, C.E., they are at the same time not failing to increase the sources of supply at their existing works at Rivington, which are situated about twenty miles from the borough, and a large new reservoir in the neighbourhood, 65 acres in extent, which has been in course of construction for the last seven years, has just been completed. This new source of supply, which is called the Yarrow Reservoir, is situated not far from the present Rivington Reservoirs, and forms an almost natural basin of great capacity. It was designed to store the supplies from the converging branches of the river Yarrow, which have hitherto chiefly run to waste. The engineering character of the works have been of a heavy and formidable nature. At the lower end an embankment was necessary, and in the construction of this part of the work there have been much difficulty and a great expense incurred. In the first instance, a depth of about 150 ft. had to be trenched, in order to find a good foundation. The height of the embankment itself is 110 ft., which will give some idea of the stupendous nature of the works. The greatest depth of the reservoir is 93 ft., and its estimated capacity of supply 1,000,000 gallons per diem, or 7,000,000 gallons per week. Its construction has involved an expenditure of 200,000*l*.

It was originally suggested by Mr. Duncan, C.E., the late water engineer to the Corporation, and has been carried out by Mr. Jackson, C.E., with Mr. Robert Martin as resident engineer.

CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS.

The annual address at the Eighth Annual Convention of the American Institute of Architects was read by Mr. H. A. Sims. In the course of it he said,—

Before a desire for good art can be expected among an essentially utilitarian people, some enlightenment must take place, some enthusiasm must be awakened. With either of these incentives a desire for good and real architecture is sure to follow. There is an old Florentine proverb, "That you might as well physic the dead as attempt to instruct the old." The hope for more appreciation of our art in the future, I take it, is rather to be looked for from such means as have been adopted at Cornell University in this country, and at Oxford and Cambridge Universities in England—engrafting on to schemes of general education for the young a certain amount of art teaching. Very little is to be hoped for from instructing those who are old, set in their opinions, and established in a total disregard of art matters.

The journal which we propose shortly to commence will be our first real step towards addressing the public. Will it be a success? The question can only be answered by us architects. I make no doubt, if our serial is conducted in the proper spirit, and contributed to by the best architects throughout the continent (I say this advisedly, for this Institute is intended to embrace the architects of the continent, and the journal issued under its auspices should be supported by all)—if it is so supported and so conducted it will be a success. It must effect much good in disseminating orthodox ideas on architecture. The full and proper appreciation on this continent of our art, or, indeed, of either of the other fine arts, is as yet very far off.

The majority of us are of Anglo-Saxon lineage, and our race has always been more characterised by an appreciation of the practical, of the utilitarian, and of the useful, than of the beautiful. A railway, a bridge, or a steam-engine, is much more admired and appreciated by the generality of our race, than the grandest cathedral would be. It is so in Great Britain, and it is so here. As a race we have no natural and instinctive love for the beautiful. I think it was Goethe who made a remark to the effect that we should foster a care for the beautiful, for the useful would take care of itself. Goethe addressed this idea to his own countrymen. It might have been applicable to them, but I am very sure that it would have been more applicable to our people of the Anglo-Saxon race than to Germans.

I once knew a New England millwright living in a small city in Canada. He had amassed a considerable fortune, and was having a large house erected for himself on one of the principal streets. His neighbours remonstrated with him upon the unsightly appearance of the building. His reply was:—"That he intended to live inside the house, not outside; the inside would suit him very well, and he did not care a button who liked the outside." I feel sure that man may be accepted as a fair average of our countrymen as they are found outside the larger cities, and of all of them who are uninfluenced by fashion or the desire for advancement in social position.

The first idea with the practical American is, that his building shall be well and substantially constructed; secondly, that it shall be conveniently arranged for his purposes. The appearance,—or, in other words, the architecture,—he cares nothing about. The high moral doctrine is enunciated by Mr. Garbett, the English architectural writer, that a man has no right to shut out a portion of the light of heaven from his fellow-men, or spoil a landscape by erecting a building, unless he does all in his power to compensate for that deprivation by rendering the building sightly, if not beautiful.

I fear that Mr. Garbett's idea would hardly find favour with the majority of our countrymen, and I doubt if very many of his own countrymen would be willing to adopt his views, although no doubt both Englishmen and Americans will admit the beauty of the idea; but will say it is not one for practical business men, but rather a notion for young ladies to expatiate upon. Yet even though the great Anglo-Saxon race, as a race, does not sufficiently appreciate the beautiful, as was done by several of the races of ancient times, and by the Latin races of our own day; yet I think the fact will be conceded that the Anglo-Saxon race and the English language are the race and the language of the commerce of our day. Yet the fact must be admitted that architecture in all past ages has always marked the progress of civilisation. The rude hut or tent of the savage marks plainly the barbarity of his life. The ugly yet ingeniously constructed buildings of the Chinese and other Mongolian races mark the step in advance of the savage, as their structures are better than his hut.

In all past ages, the style of art exhibited in the architecture of a nation, or a race, was, to a great extent, an index of the culture, civilisation, and enlightenment attained. Greece produced her finest buildings when she was in the meridian of her greatness. Europe, in the thirteenth and fourteenth centuries, when the best mediæval work was produced, not only held the power of the world, but all its learning. Mr. Taine says,—"The more we contemplate architectural works, the more do we find them adapted to express the prevailing spirit of an epoch."

In a new country like ours, which must be opened and rendered habitable before it is embellished, our brethren the engineers have rather shorn us of some of our importance, and are doing what architects were called upon to do, before the division took place in our profession. Giotto, Bramante, Brunelleschi, Michelangelo, Palladio, and all other great architects of the Italian Renaissance, executed engineering as well as architectural works. They erected bridges and fortifications, as well as palaces, churches, and theatres, more purely in our line. Architects, therefore, as those who add grace and proportion to utilitarian structures, as well as engineers, have played and are playing a very important part in the history of civilisation. It is they who erect the milestones in the history of the world's advancement. I esteem that the part of the architect is of a higher order than that of our brethren the engineers.

The public does not appreciate architects. Our own people and the British people are nations of shop-keepers, and as a race, we appreciate only what gives back in money a fair return for the money invested. Our people, as a people, really esteem architecture only so far as it pays. This is a hard condition to exact from art,—a condition in which it cannot be expected to flourish in at all a healthy way. But I am sure that we can see the dawn of a brighter day, a day in which art will be loved and appreciated for its own sake only.

Various reports were read. In the *Report of the New York Chapter* it was said,—"Without entering into the detail of the difficulties encountered by the Committee on Examinations in the way of securing anything towards its advanced aims,—difficulties arising from the low state of public education, as regards the æsthetical, scientific, and sanitarian requirements of good building art, and from the conflicts of political and municipal conditions,—nowhere more potent or more destructive than in our locality,—it may be sufficient to say here that, with the help of the Building Department of the City, and of the Board of Fire Underwriters, an important step in the right direction has been gained. At the very close of the last session of the State Legislature, an amendment to the Building Law was passed, subject to the Governor's signature, which was afterwards added, providing for the formation of a Board of Examiners, consisting of the Chief of the Building Department, a member of the Committee on Examinations of this Chapter, one of the ex-Presidents of the New York Board of Fire Underwriters, and two members of the Mechanics' Exchange, one a master-mason and the other a master-carpenter. The power entrusted to this Board is the discretionary one to modify or vary the different provisions of the Building Act to meet the requirements of special cases, where the same do not conflict with the public welfare,—a power formerly vested in the late Chief of the Building Department alone, and which, as will readily be appreciated by all who have been brought in contact with the routine of the building trade, might with uncontrolled facility be wielded to an enormous extent in the interest of the individual and against that of the public."

The *Boston Chapter* showed, in their report, that, by interference, they had obtained satisfactory conditions for a competition in that city.

The *Albany Chapter* gave a report from their Committee on Education. The committee express regret that students will not remain long enough in the College of Architecture of the Cornell University at Ithaca. Speaking of the ordinary course pursued in offices, the report says:—"The office-student is too apt to liken his case to theirs, and to go along, month after month, trusting that his six or eight hours a day of drawing and tracing will presently have brought him where he needs to be. He does not consider that what is for his companions a permanent condition of life, which they can afford to take quietly, is for him a temporary relation, full of opportunies, but opportunities the full fruit of which is only to be gathered by the diligent worker, avaricious of work. If instead of knocking off work when the office closes for the day, and devoting his leisure time and thought to other things, the office-student would consider that his own day's work, the work that will tell for himself, is just beginning, and sedulously give his evenings to the study and examination of just the things that he is occupied about by day, he will find that a year of office-life will profit him more than three years will profit another. The resources of the office are naturally open to him; that they shall be, should be a part of his agreement on entering it. By making himself thoroughly familiar with what they contain, and throwing in the light to be obtained from the books and from the practical papers constantly appearing in the professional journals, he could inform his mind and ripen his judgment to an extent that would soon surprise both himself and his employer. And these studies would immediately make themselves felt during the day. In the first place, his rapidly increasing powers would put him along rapidly in the path of advancement, and more responsible work would be entrusted to his care. In fact, here, as heretofore, the more he knew the more he would be able to learn. Secondly, he would be in a position to profit to the utmost by the experience and knowledge of the mechanics with whom he was brought in contact."

A Report of the *Committee on Professional Practice*, read on the second day, agreed as to the desirability of adhering to the system of charging by commission. The report ended thus,—

"It is, of course, essential to the maintenance of any custom that it should be adhered to, and that the practice of setting aside should not itself grow into a recognised custom. Usage, like confidence, is a plant of slow growth, and what it has taken many generations to build up may be thoughtlessly destroyed in one. But the reasons which have led to its establishment are always the best arguments in its favour. If the reasonableness and practical convenience of a custom do not cause it to be honoured by observance, we can hardly ask men to cherish it merely for the sake of keeping it alive. These customs are, in fact, the only protection that either we or our clients possess against intolerable nuisances of bargaining and chaffering, a plague from which the very shopkeepers have had sufficient self-respect and firmness to rid themselves, and which is utterly destructive of proper professional relations. To call attention to the basis of reason and convenience on which they rest, and to show that they subserve the best interests both of the architect and of his client—for in the long run their interests are the same, and are bound up in the good of the work—is, as it has seemed to us, the best service that this committee, or the Institute, whose servants we are, can perform. It is thus, and not by an arbitrary legislation, conceived in a hostile and aggressive spirit, that such uniformity of practice as may prove possible is to be brought about. This association is not a trade-union, selfishly combining against the public. It is an enlightened and public-spirited body, seeking by co-operation and mutual consultation to advance the public interests committed to our professional charge."

Mr. Sims, as Secretary for Foreign Correspondence, read a report. In it he said,—I have been favoured by a Swedish architect, at present resident in this country, with certain facts connected with the architecture and building of Northern Europe, which I think may not be uninteresting to you. He informs me that few or no buildings were erected thirty years ago excepting of bricks, which were stuccoed and elaborately worked out in details imitating the finest Italian marble, cut with the greatest artistic ability. The bad quality of the bricks and the rigorous climate prescribed these conditions. As a further precaution, the bricks were very often painted with oil-colours. In St. Petersburg this latter is a law, and every house-owner is obliged to repaint his house every second year. This system of facing a building gives the city and the numerous country-seats a gay and luxurious

appearance, but at the expense of durability. Buildings are now frequently constructed of free-stone, and also of chalkstone. Some of the former and all the latter are covered with oil-paint. Although granite abounds in the northern countries, buildings erected of that material are unknown. Basements are often built of this material, and foundations always are. The habit of suburban residence is very general among the wealthier classes of Northern Europe. Persons inhabiting the cities occupy their villas only during a few months of the year. But, like the English gentry, many spend the greater part of the year at their country seats. Between the two classes the country is sprinkled over with country seats, castles, and palaces; many of them making great pretensions to architectural merit. Many of these establishments have fine parts and much elegance. Many have gardens, vineries, and greenhouses. In late years, there have been often added winter gardens in immediate connexion with the reception-rooms. Formerly all the houses for the peasantry and poorer classes were constructed of solid timber, from 7 in. to 10 in. in thickness, plastered on the inside, and covered externally with boards. The timber, however, is so rapidly disappearing that the system of construction has to a great extent been superseded by the ordinary frame construction in use on this continent. In the southern part of Sweden the terra-cotta construction of Germany and Denmark has been tried, but it is thought that the system will not prove permanent or lasting, owing to the united effects of the salt air and extreme cold. The city dwelling-houses are generally upon the apartment system, of large size, with very heavy brick and external party walls. The municipal regulations as to these, the size of open yards, and the precautions against fire are very strictly enforced. These apartment-houses are from four to six stories in height. The ground-floor is usually devoted to shops, and very seldom to living-rooms, the first-floor being the choice flat for residence. It is very rare to find the basements used as living-rooms."

The annual dinner of the Institute took place at Delmonico's, and, after dinner, addresses were made by several guests and members.

THE BUILDING TRADE IN MAINE, UNITED STATES.

It is surprising what a difference of opinion exists among British consuls respecting the nature and value of their functions, and one is almost tempted to ask what sort of instructions they receive when they obtain their posts, and to regret that England does not train her sucking diplomatists in the consular school as some Continental powers do. But we choose to bestow our consulates in a peculiar way, to restrict our consuls (with very rare exceptions) to an inferior branch of the public representative service, and, as a natural consequence, we have gathered the most heterogeneous collection of commercial foreign officers in the world, and invest gentlemen of all grades of capacity with the honours of representing this country in foreign ports, of hoisting the national flag and of receiving salutes on stated occasions. A time may come when we shall "reconstruct" the consular department, but until it arrives we must be contented to accept any queer document as a consular report, and must not be surprised if a cool representative at an important port summarises the commercial news of the year in a single line stating how many ships were entered and cleared, while a zealous servant at a minor town fancies we shall be interested by cuttings from the local papers. Those who have studied the consular reports of the past year can judge of the justice of our criticism generally. At present our object is merely to call attention to and to summarise one of the best and most interesting trade reports of the year, which has been written by Mr. Murray, our consul at Maine, who has spared no pains to supply useful information to the trading classes of this country, and who has often, when official data were wanting, taken great trouble to render his picture accurate.

Taking only those parts of the story which suit such a journal as this, we find that there is abundance of timber in Maine, if the estimate be correct, that a billion and a half feet of pine are standing while the supplies of hemlock and spruce are "practically inexhaustible," while hackmatack, yellow birch, rock and bird's-eye maple are very plentiful. The year 1874 was unfavourable to the lumber business, for the building trade was depressed, and consequently manufactured lumber was slowly sold. Some of the biggest saw-mills therefore closed operations early after filling their wharfs as well as all the orders they could get. The deficit in sawn wood for the year is said to fall little short of ten million feet from the average. The deal trade was good, some twenty-eight million feet having been shipped to Liverpool during the season, which was four times the amount sent over during the previous year.

The total saw-mills in the State in 1873 was 1,109; the capital invested in them, 7,629,442 dols.; steam power, 3,403 horses; water power, 41,383 horse; long lumber manufactured, 667,420,000 ft.; short lumber, 72,405,000 ft.; value of production including shooks, staves, and headings, 9,672,235 dols.; hands employed, 7,844; wages, 2,851,000 dols. It is calculated that the total amount of sawn lumber on hand in the spring of 1873 was about 70,000,000 ft., while 592,000,000 logs were ready for sawing. The amount of capital invested in the trade is very large, and is being increased although the traffic is diminishing. It is said that they are being cut down so fast that the supply of timber will be exhausted in from five to ten years; but the inhabitants of the State live in security because the same prophecy has been made for years, yet Maine has gone on yielding an average yearly product of some six hundred or seven hundred millions of feet. Maine has the largest proportion in area of any of the lumbering States, and hopeful people assert that although the destruction of woodland has been in progress for over half a century, with new growth the forest area is so great and so prolific that it cannot be stripped of all its mercantable lumber for at least another fifty years.

The clays of the State furnish materials for an immense number of bricks, which are exported to a considerable extent. The number of brickfields is set down as ninety-three, with a total capital of 317,185 dols., giving employment to 917 hands, and manufacturing 71,549,000 bricks annually. The market for Maine bricks is in the State of Massachusetts and the southern ports. Limestone is found in fourteen counties out of sixteen, and is extensively manufactured into quick lime. The stone furnishes 50 per cent. of pure lime, and burning it constitutes one of the most important industries in the State, giving employment to a multitude of workmen, and furnishing freight for a large number of coasting-vessels. Maine lime even reaches this country, and the trade is rapidly increasing. The official returns from twenty-five establishments show an invested capital of over a million dollars, seventy-nine kilns, and nearly two million dollars' worth of the manufactured product made. It is stated that there is granite enough in Maine to build all the cities of the world, and certainly the granite formation is an extensive one, traversing large portions of the State. Blocks of immense size have been split out, some weighing more than 100 tons each. The granite quarried is of good quality, of fine grain, and good colour. Most of the quarries are on the coast. Some of them employ over a thousand men, some of whom receive 4 dols. a day. Not less than three million dollars are annually expended for the wages of workmen engaged in this industry. The stone is all hewn into proper shape in Maine, cut to fit its place in the intended building, then boxed and hooped, and shipped to its destination. Immense quantities of paving-stones are also shipped to the south. Marble is found and worked in various parts of the State, but it is generally considered better adapted for building than for ornamental purposes. A very good article of verd-antique marble has been found at Deer Isle, the annual production being about 26,500 dols. worth. Roofing slate is found in Maine in immense quantities, and of a superior character in colour, grain, and cleavage. The principal belt extends more than eighty miles. Instances exist of slabs being slit into very large squares, and manufactured into tables, black-boards, &c. The slate industry is rapidly growing in importance. The average annual earnings of blacksmiths are 670 dols.; those of brickmakers, 225 dols.; those of quarrymen, 292 dols.; and those of sawyers, 730 dols. Water-power is much more in use than steam-power, and represents the force of 75,000 horses. It is said that there are 3,100 water-powers in the State. A local statistician has calculated that the industries of Maine engage 2,656,200 horse-power, equivalent to the working energy of over 34,000,000 men labouring without intermission from year's end to year's end. Tidal power is also employed, and can be utilised at small expense, the mean height of the tide being nearly 12 ft.

IMPROVED PLASTERING FOR BRICK WALLS.

Some years ago the "Verein zur Beförderung des Gewerbefleiss in Preussen" (Society for the Promotion of Prussian Industry) offered a prize for the best composition of plaster for brick walls. The conditions imposed at the time were,—

1. That the composition should not be affected by the weather, and present an even, smooth surface when applied, becoming neither cracked nor loose by exposure to sun or frost.

2. That the composition should admit of a uniform durable colour being applied to it, the colour to penetrate either through the whole mass, or at least to a depth of $\frac{1}{10}$ in. from the surface.

3. It was further stipulated that, although the application of this composition might somewhat exceed the cost of ordinary painted plaster, still its use should be cheaper than "stucco lustro."

The silver medal of the forementioned society, supplemented by a money prize of 75*l.*, was awarded to Ambroselli, a mason of New Barnim (near Wriezen), after his plaster-composition had been proffered to the society, and stood a practical test of several years' exposure to the weather. It is, moreover, stated that prior to this crucial experiment, it had already been applied to the Abel Villa, near Potsdam, and had served for plastering over most of the architectural decorations of this villa.

A German contemporary has been lately favoured with some particulars of this Ambroselli-plastering method from the inventor himself, and, since it appears to be well received on the Continent, we propose giving the following notice of this plaster. Before proceeding with its application, it may, however, be well to remark that no new principles or materials are advocated in this composition; but, on the other hand, its application demands great exactness of workmanship, and a careful selection of the ingredients. Moreover, the laying-on process demands that the wall-surface on which it is applied be built of hard, well-burnt bricks, free of marl, and previously thoroughly dried. The materials used are lime and sand, which must be entirely freed of all impurities by special cleansing; and, as the following description will show, three different kinds of mortar are prepared from three qualities of sand.

With these preliminary remarks, we may now proceed to describe one of its most difficult applications, namely, in the imitation of sandstone dressings. For this purpose, the brickwork itself should bear as much resemblance as possible to the profile desired, so that the laying on may be conducted in as uniform a manner as can be obtained. The wall-surface being priorily well damped with water is now ready to receive the first plaster-coating. This is composed of one-third of well-slacked lime (which should be slacked at least a fortnight previous to using it), and of two-thirds of the sharpest sand. After this mass has been thoroughly mixed together, Portland cement is added in the proportion of one-fourth the volume, and the first mortar-composition, after having been thus prepared and well mixed up, may be applied in a wet state to the surface of the wall as even as possible. To prevent air-bubbles or cracks occurring, the different layers should not be applied too rapid, and time should be always allowed between the layings on, in order that the mortar may somewhat set.

The desired profile having been nearly attained with mortar No. 1, a finer mass (No. 2) may now be laid on. The latter is prepared by adding to two parts of lime and two parts of fine sand, 0·12 parts of Portland cement, and so much of the prepared liquid paint as is necessary to produce the desired tint when stirred together with mass No. 2. Two layings on with this second mortar will suffice in ordinary work to bring the desired profile to the form required, and it need only be remarked with regard to this composition that this mass should also be kept wet, and so laid on.

For very fine work, however, a third coating is used, which is made of one part of the finest sand, one part of fine-sieved lime, 0·05 parts of fine-sieved cement, with the addition

of the requisite colouring matter to ensure the desired tint when dry. This addendum must, of course, be determined by experiments made beforehand, which will give the necessary mixing proportion required. The most complete intermixing of these ingredients is absolutely necessary, and with two coatings of this mass No. 3, an experienced hand will finish the dressings in the most elegant manner.

Having thus explained the laying on of this Ambrocelli's plaster, it will be well to remember that it is advisable to divide the laying on surfaces into so many days' work, since each portion begun must be finished the same day, for reason that the composition cannot be touched up after a certain lapse of time.

With regard to stencilling, very clean effects may be obtained by using good stencil-plates, made of hard wood and fastened with iron, but the greatest elegance is said to be only attainable by using polished steel plates. By means of these and the fore-mentioned description, dressings can be made able to stand all kinds of meteorological influences, besides preserving a lively appearance.

The foregoing description renders the application of this plaster to smooth surfaces self-evident. No doubt it will be more extensively used in this respect than in the other, for architectural decorations in this plaster will always be too costly for buildings of ordinary kinds, whereas, in buildings of prominent standing, imitation dressings are becoming daily more obsolete.

SCHOOL BOARD ECONOMY.

Some local bodies, *quasi*-public persons, and private ratepayers, have been much exercised of late on account of the alleged extravagant expenditure of the London School Board, who are accused of building schools where they are not needed, that fight unequally against existing denominational schools, and of erecting buildings larger and more costly than are required. These views are in curious contrast with the criticisms that the Board had to meet in the first two years of their existence. They were taunted that they talked a great deal, but did nothing; that they theorised concerning schools, but built none. The nature of the case imposed great difficulties upon the School Board. Their work was to elaborate and establish a system of elementary schools and instruction that would embrace the whole of the young people of the metropolis of the school age who were not taught at home, or in some efficient private, denominational, or other school. The Board had no data available upon which to base their scheme of schools. They had to ascertain by the best means open to them the educational wants of particular districts and localities. As yet, on the whole, they have planted their schools with sound judgment. It would have been something little less than miraculous if in the first essays of their tentative scheme they had not built some schools that filled almost at once to overflowing, and others that took some time to fill. The Board have already a good defence against the charge of extravagance; the efflux of time is unlikely to fail to strengthen their defence, and even to extinguish the charge against them of extravagance. The Western subdivision of the Greenwich Educational Borough furnishes a notable illustration,—a pioneer illustration, it may be believed,—of this allegation.

The Board schools first opened in this subdivision, in August, 1873, were those situated in the Creek-road, and in Clifton-road. Since then Board schools have been opened in Kender-street, Hatcham, Hughes's Fields, and Duke-street, Deptford, and another is nearly complete on Blackheath-hill. We have to do herein with the Clifton-road School, which is situated on the outer edge of the populous parts of Lower New-cross. On the west of the school is a large area, occupied as market-gardens, and intersected by the Joint South-Eastern and Brighton Railways. On the east side the school premises are bounded by a large field that will be built upon eventually, but that is now in grass. Notwithstanding the comparative sparsity of the population in the immediate neighbourhood of the Clifton-road school, it was filled almost at once. The nearest Board schools, on the west and east respectively, are Kender-street, Hatcham, and Duke-street, Deptford Lower-road, both of which are full, and incapable of taking the overflow of pupils from Clifton-road, for which there is no other Board school available. The Board came to the conclusion, upon which they have acted, that the best mode of meeting the exigencies of the case was to enlarge the school to the size now reached, that some friends of education may possibly consider excessive. The school was built from the designs of Messrs. Elliott & Warren, of Westminster, and in style may be designated Domestic Gothic. The style of the original building is followed in the additions, that consist of a wing to the east front, and a retangular tower in the angle formed by the junction of the wing with the main building.

The magnitude of this suburban school may be conceived from the statement that the space now provided will accommodate 342 boys, 342 girls, and 410 infants and babies. In each of the three departments the maximum number of pupil teachers allowed has been reached long since. The teaching staff of the enlarged school will consist of a master, four assistant-masters, and six pupil teachers, in the boys' school; a mistress, four assistant-mistresses, and six pupil teachers, in the girls' school; and a mistress, three assistant-mistresses, and seven pupil teachers, in the infants' school. Total, 1,094 scholars and thirty-three teachers.

The selection of the site of the new Board school in Deptford, upon which building operations have been most recently commenced, reflects credit upon the Board, and is a good illustration of their determined purpose to gather in the children of the lowest class of the population. It is situated between Regent-street and Stanhope-street, in what may be pronounced the worst quarter in Deptford, containing a larger proportion of pariahs and gutter-children than any other. It is precisely such a situation as demands the establishment of an efficient day school, with compulsory attendance. It is also such as is left to itself by the religious denominations, such as is avoided for a school site by the National and the British and Foreign School Societies. It is true that a Sunday school has been in operation in the district for a number of years. Those who are most familiar with its operations are the most deeply convinced of its utter inadequacy as an agency to instruct and train efficiently, and especially to make amenable to discipline, the rising population of the district. The comparatively small expenditure incurred in carrying on this school is derived from eleemosynary contributions, and the teachers are volunteers that take the duty by turns,—a system very unfavourable to a teacher's influence. The experiences of some of these teachers in connexion with the Giffin-street Sunday School illustrates the character and quality of the young people that are the objects of their solicitude. One of the teachers, some time since, when the crowd at the entrance was larger and more unruly than usual, took his station at the door for the protection of such of the female teachers as had not arrived. A lot of young roughs promptly knocked off his hat, and danced upon it in their own playful manner, while another group, of larger growth, pelted him with brickbats. Part of the teacher's clothing was saturated with blood before he had finished the evening's exercises with his class. It has been, in another instance, an experience of a teacher that the youths in his class have taken the bit between their teeth, otherwise have ignored his presence, and have made the subject of conversation for the evening their experiences in Maidstone Gaol, from which they had been released during the preceding week. Notwithstanding these traits, the School Board have already proved, by a temporary school in the district in question, that this class of children, caught early, provide an efficient school-master with most hopeful material; that there is no class of children more apt, it may almost be said as apt, to receive elementary instruction. As a rule, they take the lead in the start upon a school course, but are left behind by the children of the higher classes in the pursuit of more advanced educational attainments.

Whatever may be said of other parts of London, it may not be said with truth concerning Deptford, that Board Schools are either too large or too numerous. The buildings are sightly, substantial, and commodious, but not ornate or unduly costly.

Where the Money Goes.—The *Philadelphia Public Ledger* admits that about 50 millions sterling of non-dividend-paying American railway bonds have been foisted on to the English public. We believe the actual amount to be much more than that sum.

CARDIFF AND ITS PROSPECTIVE IMPROVEMENTS.

The Cardiff Improvement Act, which was passed a short time before the prorogation of Parliament, confers important powers upon the municipality of that borough, which will henceforth be more than treble its present area, with a corresponding additional population, whilst the street and other improvements to be carried out under the provisions of the Act are of the most comprehensive character. The Act extends the municipal borough, so as to include the parishes of Roath, Canton, part of Llandaff, and a portion of Ely, an area extending four miles and a half east and west, and three miles north and south. The old borough, or what has hitherto been known as Cardiff proper, contains an area of 2,300 acres, including 423 acres covered by water and dock space, thus reducing the land built upon, or available for building purposes, to 1,877 acres. To this is now added, on the west, the district of Canton and part of Llandaff, with an area of 1,912 acres, and on the east the whole parish of Roath, with an area of 3,500 acres. The present estimated population of Cardiff is 42,500. Canton and Llandaff will add another 12,000, whilst Roath will contribute 13,000, bringing up the population of the borough as enlarged to 67,000. In Cardiff, there are 5,800 dwelling-houses in Canton, Llandaff, and Ely, 1,730; and in Roath, 2,160, making a total of 9,690 dwelling-houses in the united and enlarged borough. The present average in Cardiff is six persons in a house, whilst in Canton it is seven. The rate of increase in the number of houses built in Cardiff during the last four years has slightly exceeded the increase in population, reducing a little its density, as the census returns of 1871 give to Cardiff an average of seven persons to a house. The area of land at present built upon in Cardiff is nearly three-quarters of the whole, but of this a large portion is covered, not by dwelling-houses but by docks and works. In Canton, which has been added along with Roath, not more than one-quarter of the ground is covered, and in Roath, not more than one-fifth. Taking as a criterion the area of ground already built upon, the number of houses, and population upon it, there is on the unbuilt portion ample space for 70,000 houses, and a population of 500,000 persons, or a town eight times the size of Cardiff, Canton, and Roath combined at the present time. The population of the area now included in the municipal borough was, in 1871, 55,000. In the four years since that period it has progressed at the rate of 4 per cent. If this progressive rate of increase is maintained in the next forty years the whole area of land from east to west, and from north to south, will be covered with streets and houses, and the main thoroughfare east and west will be more than four miles long.

The Act contains special provisions as to the erection of buildings, in addition to general street and other improvements. Up to the present time the Local Board have had no supervision over the elevation of buildings, their powers being limited to the ground plan, and to the sanitary arrangements of dwelling-houses. But the new Act gives the Corporation large powers both as to the height and general elevation of buildings to be erected in future within the enlarged borough. It also contains provisions for the purchase by the Corporation of the Canton Market, together with the extinction of the market tolls hitherto collected in the Cardiff streets. It also removes the toll bars immediately outside the borough.

Several street improvements are at once to be commenced under the powers conferred by the Act. These will include the widening of main thoroughfares, and the construction of a number of entirely new streets. Several bridges crossing the canal and archways over and under the South Wales Railway are also to be widened, and in some cases to be entirely rebuilt, so as to improve and continue the thoroughfares between the old and new portions of the borough.

Fine Arts applied to Industry.—The Society of Arts has already held with success annual Exhibitions of Fine Arts applied to Industry, and in considering the whole subject of the examinations, arrangements are in contemplation for holding examinations in fine arts applied to industry. In this way the whole field of arts, manufactures, and commerce, the special province of the society, will be connected with a scheme of annual examinations in the future.

THE WEST BROMWICH PUBLIC BUILDINGS.

We briefly noticed last week the opening of the new public buildings here, which comprise a new Town Hall, a Market Hall, Free Library, and Baths. West Bromwich has grown in importance in a surprising manner, and notably within the last quarter of a century. The population of the place is now 50,000; at the beginning of the century it was only 5,000. When the question of erecting public buildings was first mooted, it met with some opposition, but this obstacle having been overcome, the erection of the public buildings was determined upon. A site was secured upon the Lodge Estate, opposite Christ Church, and on the recommendation of Mr. Ewan Christian, architect, of London, the Commissioners selected, out of about thirty competitors, the designs of Messrs. Alexander & Henman, of Stockton-on-Tees and Middlesbrough, for the Town Hall; those of Messrs. Weller & Proud, of Wolverhampton, for the Free Library and markets; and that of Mr. Pincher, of West Bromwich, for the baths. Tenders were afterwards obtained for the erection of the various buildings, and that of Messrs. Trow & Son, of Wednesbury, was accepted, the stipulated price being about 40,000*l*. The design of the Town Hall externally is of bold proportions, having at the outer corner a massive tower rising to a height of over 130 ft., the upper stage being ornamented with a continuous arcade of detached columns and trefoil arches, with a moulded cornice above. The windows generally to the basement and ground-floor have moulded stone lintels, and those of the first-floor semicircular arched heads of brick and red terra-cotta, leaving an ornamental hood mould of the latter material, of which also the string courses, the cornices, the arcading to the tower, &c., are made. Red pressed bricks are employed for the general facings, and green slates, with red tile castings, form the covering of the roofs. A flight of steps, 12 ft. in width, gives access from the principal entrance to a corridor 9 ft. wide, laid with an encaustic tile pavement, by Messrs. Maw & Co. Opening from this corridor are porter's lobby, waiting-room, surveyor's office, and offices for the sub-clerk, rate collector, inspector of nuisances, &c. The muniment-room, which is of fire-proof construction, opens out of the surveyor's office. The corridor above that on the ground-floor gives access also to the hall (but on a level with the gallery), and also to the board-room, 36 ft. by 18 ft. 6 in.; to the committee-room, 23 ft. by 18 ft. 6 in.; to the clerk's office, and two retiring-rooms. Spare offices are provided in the upper part of the tower. The main staircase is lighted by large windows filled with stained glass, supplied by Messrs. Dunn & Broughall, of West Bromwich. Two stone staircases, beside the main staircase, lead to the galleries, which are continued around three sides of the hall. The latter is in size 81 ft. by 48 ft., and is internally the main feature of the building. The ceilings, the iron-work, the walls, the doors of the hall, the pillars, &c., have been decorated (from designs by the architect) by Mr. S. Broadbank, of Stockton-on-Tees.

The Free Library and News-room lies to the left of the Town Hall and adjoins the Market Hall, and the entrance is in High-street. The reading-room is 45 ft. long by 25 ft. wide and 23 ft. high, lighted from the roof. A handsome staircase, convenient to the entrance, leads to the reference library, &c. The building has been carried out from the design and under the superintendence of Messrs. Weller & Proud, architects, of Wolverhampton, by Messrs. Trow & Sons, contractors, of Wednesbury; the heating by Messrs. R. L. Jones & Sons, of Monmore-green, Wolverhampton; and the gasfittings by Mr. Eaton, of Darlington-street, Wolverhampton.

The style of the Market Hall is Gothic, freely treated of a slightly Continental character. The hall is 90 ft. wide and 151 ft. long, having the principal entrance in the end towards High-street. The interior is divided into a central avenue, 40 ft. wide and 45 ft. high, on either side of which are arranged aisles, each 25 ft. wide, divided from the central avenue by handsome arcading, supporting by iron columns, 18 ft. apart.

The Baths occupy a large piece of ground in a pleasant part of the town between the District Hospital and the Public Buildings. The estimated cost is 3,550*l*. Each swimming-bath is 50 ft. long by 30 ft. broad. The engine-house is a firmly-built structure, surmounted by a tank, which is about 28 ft. long by 18 ft. broad, and capable of holding 20,000 gallons of water. An artesian well, 60 yards deep, is sunk for the supply of water, which is pumped up by means of a 16-horse horizontal engine into the cistern, and conveyed from thence to the various baths, which are heated by hot water through a warming apparatus from two boilers.

PREMIATED DESIGN FOR THE GERMAN PARLIAMENT HOUSE.

Some time ago the German Government invited designs from architects of all countries for their Parliament House, proposed to be built in Berlin. From a large number sent in, five designs were selected, and received premiums. One of these was the work of our distinguished countryman, Sir G. G. Scott, R.A., produced in conjunction with his son, Mr. John O. Scott, and in our present number we give a general view of the design. On another occasion we shall publish the plan of the principal floor, which will make clear the general arrangements. In response to a request from us, Sir Gilbert enables us to state, in his own words, the principles which guided him in making his design:—

In making this design it was intended to adopt or develop a style which really never appeared in the series of developments in German architecture; that is to say, a fully matured pointed style, founded on really German elements. The Germans, at the commencement of the thirteenth century, were on the high road to a noble form of Gothic architecture wholly their own, but were disturbed by the importation of French architecture. My object has been to imagine this interruption to have been *nonexistent*, and the following extract from the explanatory remarks which accompanied the design will more fully elucidate the idea:—

"The most truly national period of German architecture may be said to extend from the days of the first Otho to the end of the reign of Frederick Barbarrossa; though, for our immediate purpose we may take the buildings about the time of the last-named emperor as our type. No form of Mediæval architecture is more marked in character, and, to a German, none should be more dear, inasmuch as no style could be more truly national, or in its main characteristics more noble. As, however, it wanted one feature, the pointed arch, and as it did not yet possess many refinements and inventions, which rendered many subsequent buildings more perfect, though perhaps less characteristic, we seem to want a more advanced form of art as the groundwork of any modern revival of the style, and such more advanced development *did* commence in Germany during the early years of the thirteenth century, as we see at Limberg on the Lahn, the cathedral at Bamberg, and numberless buildings; and it is only because this natural and logical course of development was too early checked by the amalgamating process I have already alluded to, that the attempted development I am now advocating became necessary.

What, therefore, I wish here to urge is the desirableness of *continuing* and following up in our own revived works the development commenced so nobly immediately after the time of Frederick I., but too much discontinued in works in the middle and end of the thirteenth century, a development uniting in one the perfection of style which we find in such works as St. Elizabeth's Church, at Marburgh, with the more natural characteristics of Limburgh, Gelnhausen, Barnbergh, Andernaut, St. Martin's, St. Severins, &c., at Cologne, and a host of edifices which have rendered Mediæval Germany illustrious in the annals of architecture.

I beg, therefore, that my design may not be judged by archæological rules, as it has been my object, while adopting a style founded in the thirteenth century, to retain in it those especially German characteristics which may be viewed as more properly belonging to the twelfth, though nevertheless extending themselves far into the thirteenth century, and thus raising and standing by the national banner against the advancing fashion of amalgamation, which eventually effected their extinction.

The other development I have to advocate is one of an opposite character. It is the absorption into the old German style, not only of modern systems of construction, and modern appliances, so far as they are good and desirable, but of at least one feature of modern architecture, which I view as being so noble and august that no style can be considered perfect that rejects it. I refer to the cupola, as it has been developed in latter ages, a development of which the greatest examples may be said to be seen in the Cathedral of Florence, and St. Peter's, at Rome.

That the Mediæval architects of Western Europe did not reject the cupola we have innumerable proofs in Italy, in Germany, and in France. I need not, therefore, argue this point. The particular development of the cupola to which I now refer, was semi-mediæval in its origin at Florence, though its more complete realisation at Rome was in another style. This form of cupola may be defined as that which renders it an equally noble and magnificent feature when seen from within or without,—that form which Michelangelo described under the similitude of raising the Pantheon on the Temple of Peace.

For a great and dignified national structure I can conceive of no feature so appropriate or so desirable as a vast and lofty central cupola. Externally, all other forms would culminate in and do homage to this, while internally no other form could with equal majesty canopy the central hall of a palace of legislature. I have, therefore, devoted my attention (with what success I leave others to judge) to accommodating this glorious form to the details and sentiment of Old German architecture.

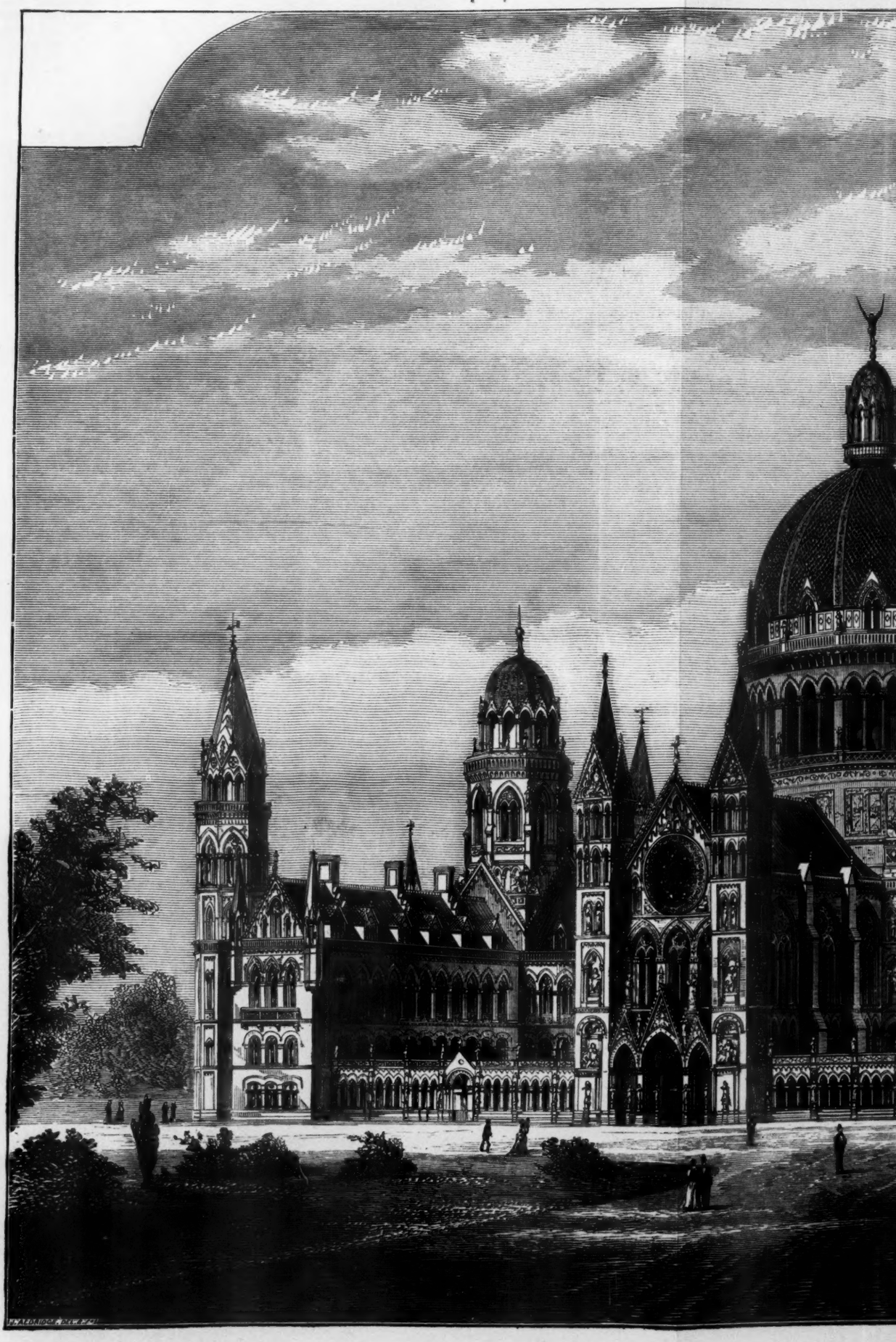
Of my great cupola I may say that externally and internally, it is in some degree like that of St. Peter's would be if translated into Early German style. I have so far departed from my type as to sever the internal from the external cupola, and to support the lantern which crowns the whole by a system of construction interposed between the two. The system has usually been attributed to Sir Christopher Wren, who adopted it in building the Cathedral of St. Paul in London, and has subsequently had numerous followers; but the same idea had been struck out centuries before in St. Mark's at Venice, where the very same thing had been carried out in timber, which has since become so popular, though carried out in other materials. The great advantage of the system is that it enables the designer to make the height of his cupola to suit the eye both within and without, which has always been the great difficulty to overcome."

It is reported that another competition, *confined to German architects*, is to be invited.

EFFECT OF BLOWS ON IRON.

In the course of one of the Cantor lectures on tools to which we have already referred, the Rev. Mr. Rigg said,—Besides the surface work produced by hammers, there is some hitherto mysterious and as yet uninvestigated internal work done by them. It is easy to make clear the fact, of which, however, no satisfactory explanation has yet been offered. There is on the table an ordinary magnetic needle, the ends being directed, as usual, to magnetic north and south. If, now, this common iron poker be held in the hand, and the lower end directed towards the north, but inclined about 67° below the horizontal line, the poker may be said to be in the line of the dip of the magnetic needle. Now strike the poker two or three blows upon the upper end with an ordinary engineer's hammer; it will be found that some internal change has taken place. Direct first one end of the poker and then the other to the same pole of the needle, and repulsion will be manifested in one case, and attraction in the other. Now reverse the poker, making what was the lower end the upper one; strike it as many blows as were given to it before, apply it to the magnet, and it will be found that both ends attract the balanced needle, thus showing that some change has taken place, for the poker has lost all trace of magnetic polarity. Give two or three more blows, and it will be found that the magnetic effects are the reverse of those in the first case. Such a simple experiment in the private room prepares us for results, equally unaccountable in cases where metals are subject to hammer impact, or that which is equivalent thereto; hence, for example, it is apparent why the compass needle on iron ships may be affected in consequence of the tremor to which the vessel is subjected owing to blows from waves. Nor is it a question of apparent phenomenon alone which has to be regarded in this inexplicable work of hammers. These magnetic manifestations seem to be accompanied with internal material changes which sometimes make their existence too clear by fractures as unexpected as they are dangerous.

PREMIATED DESIGN FOR THE GERMAN PARLIAMENT HOUSE, PROPOSED TO BE BUILT IN BERLIN.—BY



PREMIATED DESIGN FOR THE GERMAN PARLIAMENT HOUSE, PROPOSED TO BE BUILT

ILT IN BERLIN.—By Sir G. G. Scott, R.A., in conjunction with his Son, Mr. J. O. Scott.

PROTECTION FROM LIGHTNING.

Sir, — The number and intensity of the thunderstorms which have raged over this country during the season, as well as the accidents which have accompanied them, have been so far above the average that they have attracted very properly an immense amount of interest on the subject of lightning, and the means we adopt, or that are at our disposal, to protect ourselves and our buildings from the destructive effects of electrical discharge. Day after day have the daily papers been replete with details of casualties to both human life and property, for not only have trees been shattered, cattle destroyed, public buildings injured, and private houses struck, but human beings have been killed in such numbers, that, if tabulated, they would form a most disastrous list. Hence the duty of every householder to protect himself and his family.

Now, as regards human beings, we cannot, it is true, whilst out of doors, carry about with us any available means of obviating the calamity; but as regards buildings it is notorious that in no case has damage arisen where the structures had been provided with lightning-conductors, whilst on the other hand in no single case where mischief happened was there any conductor. The conditions that determine a perfect lightning-conductor are:—

That it shall expose on some prominent position of a building a metallic point, and that it shall offer from this point to the earth a path of little or no resistance to the passage of the current.

The conductor must be solid and continuous from its point to the ground, *i.e.*, there should be no joints, unless it be a well-soldered one, in the whole of its path.

Its connexion with the ground must be sound and good; in fact, in "telegraphic" language, it must make a good "earth," either by having its end coiled up or buried in a hole in moist earth and surrounded by coke, at a depth from 8 ft. to 12 ft., or by being wrapped round a gas or water main, to which it should be well soldered, or by being carried down a well or to some adjacent river or water-course. In applying conductors as a means of guarding against the destructive effects of lightning, the principle to be carried out is to bring the given building into such a state of passive electrical resistance as it would have supposing it were metallic throughout. Now, this is best accomplished by connecting together metalically, as far as possible, all large detached masses of metal in the fabric, such as roofing, metal ridges, spouting, gutters, leads, crestings, &c.,—at least, those in the line of probable discharge. These should be carefully connected to the main conductor or conductors, care being taken that all joints are thoroughly sound. Each conductor,—if there be more than one,—should make, if possible, a separate "earth," and should be connected together either above or below the ground line.

The practice adopted by some people of insulating conductors, not only complicates matters, but is quite unnecessary. The area protected by a conductor is a radius equal to the height of the conductor above ground. Thus, for moderate-sized houses, one conductor is enough.

If the finial or point project 2 ft. or 3 ft. above the chimney, it will be sufficient.

The question now arises, What is the best form of lightning-conductor? I say unhesitatingly a galvanised iron wire rope of sufficient sectional area. There is no need to go to the unnecessary expense of copper; a stout galvanised rope will carry away any discharge, and by its use cost is reduced, and a means of protection placed within the reach of all.

A finial of brass or copper, electro-gilded so as to avoid oxidation, is affixed to the highest point of the building, and the wire rope being coupled thereto is to be carried down the side of the structure, to which it should be closely fastened by stout hooks. As before observed, care must be taken to preserve continuity, as the path of the electrical discharge is always in the line of least resistance. This line may not always be the shortest lineal distance, but it is in all cases the shortest electrical distance; that is to say, that lightning picks out its shortest or easiest path to earth, selecting in its transit, with the nicest discrimination, metal cramps and fastenings, and by its expansive power shattering and destroying inferior conducting substances, such as stone, brickwork, or wood.

Now, what is the cost of all this, may be inquired? Merely a sum of 4*l.* will suffice for the protection of any moderate-sized house, not exceeding, say, 60 ft. to 80 ft. in height, including all cost.

The question now naturally arises, "Why do we not protect our buildings when the cost is so trifling?" The damage done to property, let alone the question of human life, during a single storm would more than pay for the erection of efficient conductors over dozens of houses. A small outlay, it will be seen, may purchase an absolute immunity from a danger which may at a moment when we least expect it number us among those who are gone from us.

Frank Russell, C.E., Assoc. Soc. Tel. Eng.

ABANDONED.

Few men, even speculating builders, intending to build a tower, or other edifice, fail, in these days, to sit down and count the cost thereof before commencing operations on the site; on paper, however, many structures are fashioned for those who have taken no adequate means to ascertain their willingness or ability to carry out the designs.

Many building schemes are abandoned, and with them, if possible, the architects whose services have been employed. Some would-be builders endeavour to make an express stipulation to the effect that no charge shall be made for the drawings, unless the works they represent are executed; and very often they succeed. Men young in the profession, and blind as yet to their own interests, agree to this, and learn by experience what bad policy it is to become a party to irregular proceedings.

But why should a practice, looked upon as dishonourable by the members of another profession, among architects be considered as optional? If a solicitor undertakes a cause on the understanding that he is to receive his fees only in the case of his client proving successful, he loses caste. It is not that he has committed an act in itself base; but he has, for personal objects, done a thing injurious to the profession of which he is a member. Should not an equally high standard of professional conduct be reached by architects?

In many instances in which the intention to build is abandoned, although no stipulation has been made to meet the contingency, the client expresses great surprise at the amount of the charges which he is requested in due course to disburse. He points out, quite unnecessarily, that he has received no benefit from the labours of the architect, and promises to him future gain in compensation for a lenient consideration of the present case. The architect argues that the Institute "scale" has provided for the possibility of works being abandoned, and that he has made his charge in accordance with it. The client retorts that he hates paying "for nothing."

At length the matter is ended by the architect sorrowfully either braving the wrath of his late employer, or making an abatement from his just fees; so that as William Cowper says of the parson and farmer on tithing-day,—

> —— "he who takes, and he who pays,
> Are both alike distress'd."

Of the alternatives, that of incurring the displeasure of the economist should always be chosen. Would any medical man remit the whole or part of his fees because the patient had died? Would he not very truly say that he was a loser by the death, and that he had hoped to attend the sufferer through his recovery? And might not an architect say as truly that he is a loser by the abandonment of works, and that his hope was to superintend them, and to obtain his full commission?

RAMBLES OF AN INVALID.

It sometimes startles, and not uselessly, those who stay at home, when they hear where less quiet souls have been ranging within a given period. The following portion of a letter from M. Cesar Daly, of Paris, to an old friend in London, will probably have a similar effect:—"In April last year," says M. Daly, "I had a sharp touch of my old bronchial complaint. At the beginning of July I started for Sweden by Germany, where I found hundreds of our cannon forming monuments of every description. I visited Denmark, Sweden (from west to east), going through all the lakes, and assisted, in August, at the Prehistoric Congress of Stockholm, in the name of the Société Centrale des Architectes. Thence I started back through Holland and Belgium, joined my family in the Pyrenees, and, after a month's stay in the mountains, carried my smala off to Algiers, where the boys followed the Lyceum studies. I visited the antiquities in the environs of Algiers, and on the 1st of February started with a military commission through the Eastern Sahara, as far as 800 kil. south of Alger. Two months under tent. Three days after my return, I started with your consul-general, Col. Playfair, for the Aurex mountains, and visited all the principal Roman antiquities of the province of Constantine, taking sketches and notes everywhere. Again two months under tent. I came back through Kabylia with my eldest boy, who joined us at Constantine."

INSPECTION OF THE COVENTRY SEWAGE WORKS BY THE GOVERNMENT COMMISSIONERS.

On Thursday in last week, Mr. Clare Sewell Reade, M.P., Mr. R. Rawlinson, C.B., C.E., and Mr. S. J. Smith, C.E., the commission appointed by the Local Government Board to inquire into the disposal of town sewage, visited the Coventry Sewage Works, which have been established by the General Sewage and Manure Company to put into practical use a plan for the purification of sewage that had been invented and patented by Dr. M. F. Anderson. The commission were accompanied by the Town Clerk of Coventry (Mr. T. Browett), and the city surveyor (Mr. E. J. Parnell), Dr. Anderson, Mr. J. C. Malliss, C.E., and Mr. E. F. Coddington (manager, sewage works), were present to conduct the Commission over the works, and make explanatory observations.

The Commissioners have been appointed to inquire into the disposal of town sewage by three methods, viz.:—1. By irrigation (sewage farm); 2. By precipitation and filtration; 3. By chemical processes. They have visited Bedford, Doncaster, Harrogate, Leeds, Bolton, Chorley, Edinburgh, Glasgow, Wrexham, Banbury, Kendal, Rochdale, Birmingham, Leamington, and Warwick; and on Thursday they inspected the Coventry Sewage Works, and proceeded thence to Rugby. It is expected that they will finish their English tour in about a week, and will then go to some of the principal towns on the Continent; and they hope to be able to make their report before next session of Parliament.

The sewage, as it flows from the city at the rate of about 2,000,000 gallons every twenty-four hours, was first seen, and the visitors were afterwards conducted to a building containing one of Latham's solid sewage extractors, where the straining and extricating of the solid matter was witnessed. The sewage and chemicals having been duly mixed and passed through the precipitating tanks, samples of the effluent water were exhibited in glass test tubes. The effluent water is subjected to a process of filtration, and for the purpose is conducted to a properly-prepared filter-bed. Four and a half acres have been found to be sufficient for the filtration of the effluent water from the sewage of Coventry, but nine acres have been prepared for the purpose of having a second filter-bed ready when the one last in use requires rest or repair. The Commission were conducted to the filter-beds, whence the effluent water could be seen passing into the river Sherbourne from the three large mains of the filter at the rate of about 30,000 gallons per hour. The mode of collecting and drying the precipitated matter was also exhibited. The deposit amounts to about thirty tons or more daily, and if it were to be allowed to accumulate in a semi-fluid state, a nuisance would be created almost as bad as that of polluting the river. It is therefore absolutely essential that the sludge produced shall be daily converted into a portable and unobjectionable condition. It is, therefore, dried, ground into fine powder, and sold as an agricultural manure. The quality of the sewage manure so produced is said to be worth about 40*s.* per ton. Although there is a fair demand for such manure growing up in the neighbourhood, and also in the hop-growing districts, it has been found by experience that it is too low-priced an article either to bear long carriage or to command the farmer's special attention. Therefore, at the Coventry Sewage Works it is now fortified with other fertilising agents, to enable it to compete with artificial manures. It is fortified by a process patented by the company, and its value can be raised to the extent required. We shall hear by and by what the Commissioners thought of the arrangements.

HANDRAILING.

The cutting out of wreaths for handrailing is admittedly one of the most refined geometrical problems that the practical joiner has to master. Hitherto the system chiefly pursued has been that invented by the venerable Peter Nicholson, for numberless years the joiner's sole guide. In the work now before me* Mr. John Jones states "that having more than 1,000 ft. of handrailing to work for the Commercial Bank, Liverpool, in 1847, he studied how to get out the wreaths with less labour and timber and with more accuracy than cutting them out cylindrically." The result was that he discovered any wreath can be cut out square from a plank of the same thickness as the diameter of a circle enclosing the section of the intended handrail. Or, in other language, a handrail circular in section can be cut out of a plank the thickness of its own diameter: so from this it is self-evident that any mould which could be worked upon such a circular handrail could also be got out *de novo* from the same plank.

To those who are practically acquainted with the usual mode of getting out a wreath, the advantages of this system will be self-evident. Peter Nicholson evidently looked at the question more from the geometer's point of view than that of the practical joiner, considering it as a spiral cut out of a hollow cylinder, the section, in the first place, being a parallelogram enclosing the intended finished section of a handrail. It is a difficult matter to explain without the aid of models; but the advantages of Mr. Jones's system can be seen when it is stated that, supposing a handrail, circular in section, were required to be worked by the usual mode, a plank, thick enough to contain this square section and its twist in the length of the wreath, would have to be provided, and then the circular rail would be worked out of it. In sawing it out of the plank, the saw would have to traverse the plank at angles varying to the plane of its surface, the extra depth of sawing required at the point of greatest twist being a very serious matter.

By Mr. Jones's system this labour is reduced to a minimum, the plank being only the thickness of the diameter of the handrail, and being sawn out square the whole length of the wreath. This is an extreme instance given to illustrate the system. No doubt, were handrails perfectly square in section,—which they never are,—the advantages of the new system would be at a minimum; but still, though no wood might be saved, there would still be a saving in labour. In the real practical work of handrailing there is a saving of about one-third of timber, and fully one-half in time, by the adoption of the new system. It will perhaps bring it clearer to the mind how this saving is effected, if we consider that whatever be the section of the handrail as it advances up the spiral, the section revolves on its own axis. Evidently, then, if our system starts on the principle of an enclosing square, the wreath must be cut out of a plank sufficiently thick to contain that square, through the amount of revolution or twist from one end of the wreath to the other.

I have purposely abstained from any technical description of the mode of setting out the wreath by curves and ordinates, for which I refer those interested to the book itself, where all these practical matters are fully and clearly set forth. The invention is an eminently practical one by a practical joiner, who, I believe, taught it for some years at the Technical School of the then Mechanics' Institute in Liverpool. The system is practised now by some of his pupils in Liverpool. My object in writing has only been to let those interested know what can be done in handrailing through the labours of a thinking mechanic. Would that there were more such to make building the scientific pursuit it ought to be.

T. Mellard Reade, C.E.

Monument to the late War.—The monument to be erected near Metz, but on French soil, in memory of the battles of Mars la Tour, Gravelotte, and St. Privat, has been temporarily placed in the Champs Elysées. It represents France in an erect attitude placing a wreath of *immortelles* on the head of a wounded soldier, whom she is supporting in her arms. At her feet two children seated on an anchor are catching the rifle falling from his hand.

* Handrailing cut Square to the Plank without a falling Mould. By John Jones. E. & F. Spon.

SUDDEN DEATH OF AN ARCHITECT.

Mr. James Woodward, who has acted as architect and estate agent to the Duke of Cleveland, at Raby Castle, for a great number of years, on Monday week left the Castle, in a conveyance, accompanied by a coachman to Cockfield, apparently in exceedingly good health and spirits. Having transacted some building business, on his return, and when near Riverstone, he fell into the coachman's arms, exclaiming "Oh, George!" and instantly expired.

The driver, dreadfully alarmed, was much relieved by Dr. Copeland driving up at the time, and whose opinion is that the deceased died from a diseased heart, and that no inquest was necessary.

UN-SANITARY SIGNS.

(For the use of the School Board Schools.)

When streets are foul and scavengers are few,
When drains are choked and sewer-gas leaks through,
When human dwellings have a noisome smell,
You 'll likely find the houses "built to sell."

When infants pine upon their mother's breast,
When parents' looks show illness and unrest,
When doctors prosper where they starved before,
You 'll likely find that deaths than births are more.

When party broils and wars of creed are rife,
When rulers shirk the laws of human life,
When duty means the greed for private wealth,
You 'll likely find a blighted public health.

But if the truth and conscientious deeds
Are shown by men to meet all healthful needs,
Then, and then only, will the sun-burst warm
Break o'er the land in Sanitive Reform.

THE CAMBRIAN ARCHÆOLOGICAL ASSOCIATION.

The thirtieth annual meeting of this Association was opened on the 20th inst., at Carmarthen. Lord Cawdor having taken the chair, the Bishop of St. David's delivered the inaugural address, in the course of which he said,—He might ask them to consider the question, What was the proper work of a Cambrian archæological association? It was very gratifying to observe the progress which the Association had made from very small beginnings. Its organ, the *Archæologia Cambrensis*, had nearly completed the thirteenth volume, and had shown no symptom of failing for want of matter. A great deal of the work which the Association had to do was local in its character; and although in these days it was not easy to say where Wales ended and England began, it still had to be treated in many ways as a separate power of itself. In Cornwall, Wales, or Brittany, on the one hand, and in Ireland, the Highlands and the Hebrides, and the Isle of Man, on the other, we find the lost relics of a widely-diffused group of nations in a greater or less degree of purity, but still in a purer condition than was the case anywhere else. How far were the inhabitants of these countries, say of Gaul and Britain, homogeneous at the period when the light of history first broke in upon them. That light revealed certain ethnological differences between the inhabitants of certain districts. In what did such differences originate? Were they in some measure owing to the partial absorption of a pre-existing race? What remains exist of the pre-existence of such an earlier race, or was it possible to trace it in the feature, habits, or language of any among the present inhabitants of these countries, or in their local nomenclature? What light did monuments throw upon the question? It was necessary that the law should now be put in force for arresting the wanton destruction of national monuments. One class of such monuments only needed to be let alone. If camps and other earthworks were not levelled or ploughed away; if cromlechau were not blown up or turned into gateposts; and if inscribed stones were simply protected and undisturbed, nothing more was wanted or could be expected. He could not conceal his regret, as an archæologist, that the zeal for church restoration had not at all times been according to knowledge. He believed it required a greater architect to restore a church than to build one. An architect who dealt with one of the rude, solemn, quaint Welsh country churches, wanted not merely artistic skill, but something of poetical feeling. Those churches needed to be treated with the most reverent care. He thought their Society had done a great deal, but he was quite sure it had still very much more to do in the way of stopping unadvised and hasty restoration.

After an excursion to Llanstephan Castle, and the mansion of Sir James Hamilton, there were various meetings and papers read, followed by discussions, the history of Wales being considered as deserving to be written.

HYDRAULIC LIFTS FOR CANAL VESSELS.

The trustees of the River Weaver navigation have recently applied the principles of hydraulics to an invention in lifts that may, in time, supersede the builders' crabs and windlasses for lifting masonry and other heavy materials. The site of this new invention is at Anderton, where the Trent and Mersey Canal, on its way to Runcorn, approaches the River Weaver, and where there is a considerable transit proceeding from the iron and pottery districts to the sea at Liverpool; but as the canal is more than 50 ft. above the river, the whole of the trade has had to be transhipped at a great expense and labour.

The river vessels are now raised at one lift up to the level of the canal, and also lowered again. The lift consists of two wrought-iron tanks, or open pontoons, situate side by side, and each of equal section with the canal, and of a length sufficient to receive the longest of the vessels which navigate the canal. One pontoon descends while the other ascends, the time occupied in making the ascent and descent being, on an average, about three minutes. Each pontoon is fitted with ends that lift up when connexion has to be made with the canal or the river, thus allowing a free passage for the vessels out of or into either. These lifting ends, and the junction of the pontoon with the iron branches of the canal, are all made perfectly water-tight by means of very ingenious arrangements of india-rubber packings, which are brought into operation by the motions of the lift and the pressure of the water.

The practical construction of this lift has been divided between Mr. Edwin Clark and his representative, Mr. T. Duer, under the inspection of Mr. Sandemann, the engineer of the Weaver Trust. The works were carried out by Messrs. Emmerson & Co., builders and contractors.

THE REMOVAL OF THE SEA.

Sir,—That bottling off of the sea to which you referred in your issue of July 31st, is by no means a very difficult or great undertaking, and will in all probability turn out a very can-tankerous affair.

But there is another more important tapping of the sea in contemplation, in order to fill up that vast sandy flat and vat, the Great Desert. Even this would not in itself be a very stupendous feat; nevertheless, I am not exaggerating when I say that the tapping of the ocean for such a purpose would not only involve momentous changes, but tremendous consequences, even to the possible disturbance of the balance of all terrestrial things. Whether this contemplated removal of the sea would be for good or ill to mankind may possibly be within the powers of calculation of some of your astronomers. The submergence of the desert would certainly affect the earth's orbit, its axial rotation, the tides, and the sea margins. As Nature has herself emptied the Desert of the Sea, I would rather myself trust to her engineering, than revert to a pre-historic state, to a stage in the earth's development, which Nature has long since cancelled. But a poor camel is not blessed with that human reason which can probably demonstrate that this projected removal of the sea would not only be of advantage to the merchants of London and Timbuctoo, but that the Universe would be benefited by the change; they tell me that science has long since settled all the troublesome details of fact, and is now entirely deductive in her proceedings. Men have only now to ask themselves if anything be of advantage to the English trader, and if it be it will necessarily follow that it will also be for the benefit of the vested interests of the entire Universe. Otherwise I should have suspected that if this project of swamping the desert were to be carried out, the white populations of the Globe would have to look black as well as those of the Niger. I should like to inquire of Mr. Darwin for what special purpose we camels were created, and why we were called the ships of the desert? Is our

kind to be wrecked in the way proposed? The submergence of the desert would certainly take a great weight off our humps and shoulders, but our occupation and seven stomachs would be gone. But what matters that, as long as there are turtle, and there are aldermen? To save us, Mr. Editor, please tell the aldermen that if the sea be removed, turtle will, in a few days afterwards, be extinct everywhere but in aquaria.

A Camel.

INLAND NAVAL ARSENALS.

Sir,—It is, on all hands, agreed that England ought to be made as impregnable as human skill can make her. All our great naval arsenals are too much exposed, and, therefore, ship-building might be considerably impeded in the case of war. The defence of our present dockyards is difficult, and to effectively fortify them is a work of enormous cost. I would suggest that one or two *inland* naval arsenals should be established on the lakes, which are in the midst of our island fastnesses,—of our natural fortifications. There fleets could be built, and lie in safety till ready for sea, or even under some circumstances the fleet itself might form a ship citadel. Thus, in the event of any reverses in the south, our position in the north might be rendered completely impregnable, and enable us, either by land or by sea, to retrieve possible reverses. Coal and iron would be at hand, and therefore could be readily and economically utilised.

W. Cave Thomas.

GENERAL FOREMEN AND CLERKS OF WORKS.

BRICKLAYER *v.* CARPENTER.

Sir,—Your correspondent, under this heading, very truly remarks that a carpenter and joiner is generally advertised for, and preferred, to occupy the position of clerk of works. I am quite willing to endorse this statement, but, I think, those that follow, pointing to the bricklayer as the proper person for the place, are not altogether correct. This question should be viewed from a broader basis than that assumed by "Bricklayer," which can be best done by noting the effects of the two trades upon the minds of the respective workmen.

The carpenter and joiner in preparing himself to be a competent tradesman, has to obtain a thorough knowledge of the principles of construction, and also to apply those principles in the timbering of the floors and partitions, trimming for the various openings, and more especially in the construction of the roof, which not unfrequently calls into play a great deal of brain power and mechanical ingenuity. The roof holds a very important position in any building, and it is there that the science of construction culminates.

It is not an ordinary mind which can grasp the formation of an elaborate roof in its entirety, and also in detail, and it is in such cases that the knowledge and training of the efficient clerk of works is called into requisition.

Your correspondent states that a competent joiner passes all his early life in the workshop, and does not appear upon the building until the superstructure is complete. It is very certain that a number of years must elapse before a man attains that manipulative skill and practical knowledge which qualify him for a joiner; but his education is not even then complete. After acquiring that knowledge he has to gain a large experience in fixing, &c., before he is in a position to accept a leading situation. It is necessary for him, therefore, to be a carpenter as well as a joiner before he attempts this.

Now, a carpenter's advent upon a building occurs almost as soon as the bricklayer's; for, has he not to prepare the centreing, lay the joists, and erect partitions, as the work proceeds? Indeed, if it were not for the carpenter the bricklayer's operations would soon reach their limit.

I have had some experience both in bricklaying and carpentering, and I am of opinion that the former is by far the most mechanical trade, and is much more readily acquired than the latter. Again, the ordinary bricklayer has not nearly the facilities of the carpenter for acquiring that extensive and varied knowledge of the attendant trades, which is absolutely necessary for a man holding so responsible a situation as clerk of works.

You see the bricklayer's ordinary work, consisting, as it does, of such a continual repetition, does not compel any mental exertion, consequently the mind does not become educated, and the man settles down with quiet contentment to lay bricks. Besides, should a bricklayer endeavour to acquire the necessary command of other trades, the difficulties he has to contend with are far greater than those of the carpenter, inasmuch as the latter has already acquired that practical knowledge of construction which is the key to all building operations.

It is quite possible for an ordinary carpenter to construct a good house by himself; but I think if a bricklayer were to attempt the task he would be somewhat troubled.

I have purposely written this letter to apply to ordinary house-building, as the more elaborate the work becomes the greater is the knowledge demanded, and the tradesman who is not qualified to control a small building would certainly be incompetent to take charge of larger works.

On buildings where stone is used in lieu of bricks, the mason supersedes the bricklayer, but the carpenter still retains his leading position. My previous remark respecting the education of the mind is still further evidenced by the mason, as the more he studies and thinks of his work, the more nearly he approaches to the standard of the art-workman, leaving far behind the mechanical drudge whose work is truly manual labour only, giving no evidence of the higher powers which, through disuse, are nearly obliterated.

How is it that the mason puts not forth his claim? It is because he truly understands his relative position, and does not endeavour to force his work (being chiefly artistic) into collision with the more scientific labours of the carpenter.

One word in respect of the "load of prejudice" under which the bricklayers labour. It is certainly a fact, and one to be lamented, that bricklayers, as a rule, do not receive the education which carpenters and joiners do; besides the nature of their occupations, being so monotonous, has a tendency to dull the brain, and does not excite that active interest which is awakened by the ever-recurring novelty of the joiner's work. I therefore say that it is not prejudice, but a stern fact, that the bricklayer is not so well qualified as the carpenter to be recognised as the leading tradesman. This is so very generally acknowledged, both by precedent and present custom, that comment is unnecessary, but still I join with "Bricklayer" in saying, "Let the best man win."

E. L.

THE WIDENING OF LONDON BRIDGE.

Sir,—It appears to me that the plan proposed for the widening of London Bridge will, if it be carried out, destroy its fine aspect. The employment of iron girders, which should saddle the bridge, and whose ends would only have the appearance of cantilevers, would be a very strong form of construction, and one which might be made ornamental. This plan would admit, too, of longitudinal girders being connected with the transverse, so as to strengthen the entire structure of the bridge.

Hundredweight.

LIABILITY TO REPAIR ROADS.

THE KENSINGTON VESTRY *v.* THE VESTRY OF ST. MARGARET AND ST. JOHN, WESTMINSTER.

At the Hammersmith Police-court, Mr. Harding, the Clerk to the Kensington Vestry, stated that their parish claimed of the defendants the sum of 87*l.* 6s. 9d., being their apportioned expenses for the repair of Marloes-road under the compulsory powers of Acts provided. Under the Westminster Improvement Act, the parishes of St. Margaret and St. John had power to purchase a site for a new workhouse. The Act also specified that the land should be deemed as part of those parishes. In pursuance of that power, plots of land were purchased in Marloes-road, and a workhouse was built upon the site, the whole being in the parish of Kensington. The road had lately been repaired by the parish of Kensington, and the sum sued for was the estimated share apportioned on the parishes of Westminster.

Mr. Bridge said it would be very hard on the owners of houses in Marloes-road if they were called upon to pay the whole amount, and he had no hesitation in deciding in favour of the Kensington Vestry.

Mr. Rogers, Vestry Clerk for the Westminster parishes, asked for a case for the opinion of a superior court, and contended that his parishes were not liable. Another objection was that they feared that the Poor-Law auditor might not pass the amount if once paid, and would surcharge those who signed a cheque for the amount.

Mr. Bridge expressed surprise, but was quite willing to grant a case; but the effect of this miserable quarrel would be to saddle the ratepayers with heavy costs. He thought his order would protect the Vestry from being surcharged.

An order for payment was made.

STRIKE AT TUNSTALL.

On Thursday evening, the 12th instant, Mr. Grosvenor, builder, of this town, unexpectedly received notice from his bricklayers and labourers working at the Primitive Methodist new schools and a number of houses in Henry-street, for an advance of wages, the bricklayers 1d. per hour (from 7d. to 8d.), the labourers ½d. per hour, increase. On Saturday morning they demanded a satisfactory answer. Mr. Grosvenor at once told them most decidedly he should not give any advance under such circumstances, and referred them to the rules of the society agreed to by masters and men, which require six months' notice for any alteration of terms, such notice to be given at other times than in August. The men replied that some sub-contractor on the railway was giving the increased wages, and therefore they required the same. Mr. Grosvenor still refusing the advance with such notice, the men left him at a few hours' notice, thereby putting him to great inconvenience, he having large contracts in different parts of the country.

SOLIDIFIED CEMENT.

Sir,—Strolling out one evening last week from Darlington, I came to a railway bridge crossing the river Tees at Low Conniscliffe; upon going to the water's edge I noticed a number of what seemed to be sacks of flour, but, upon examining them, I found them to be blocks of solid stone, with the fragments of the sacking still upon them, the marks of the sacks, the seams, the shape at the bottom, and the tying at the mouth being complete. On inquiring I learnt that five or six years ago, when the foundations of the bridge were being made, the sacks of cement were on the water's edge, when one night a freshet came down the river, covering the sacks, and turning the cement into stone, a fragment from one of which I enclose, it taking a deal of labour to chip off. The remains of a dozen can be counted.

T. B. B.

CLAIM FOR PERSONAL INJURIES.

IMPORTANT TO BUILDERS.

In the County Court, Walsall, Harry Walters, slater, Walsall, sued James Tuto, builder, of the same town, for 25*l.* as compensation for personal injuries, the issue being sent down for trial from the Court above. The plaintiff's case was, that in February last the defendant had a contract for the building of some houses and outbuildings at The Pleck for Mrs. Bowen, his contract requiring him to provide all materials. During the erection of the buildings he made a contract with Mr. Oliver Joynt to do the slating, and on the 6th of the month named, as the plaintiff, who was with Mr Joynt, was cutting off the ends of some laths which projected from the brewhouse, a rafter upon which he had occasion to rest broke through the middle, and he fell down on to the floor of a sort of passage, a distance of 10 ft., and sustained a compound fracture of the right leg. While he lay upon the ground, immediately after the fall, he picked up a broken rafter, and found that at about the middle of it there was a large dead knot, extending from side to side, and within ½ in. of the top, and to within ¾ in. of the bottom; but afterwards when an attempt was made to find it, it had disappeared. By consent, a verdict for 80*l.*, including costs, was entered for the plaintiff.

A SUB-CONTRACTOR IN A FIX.

At a meeting of the St. George's Union last week, the clerk read the following sub-contractor's appeal:—

"*To the Committee of Building Works, St. George's Union.*
31, Church-street, Chelsea.

I have taken the liberty of addressing you respecting the following:—I unfortunately entered into a contract with Messrs. Thorn & Co. to execute the plastering of the above works, and have now executed work with materials on the ground to the amount or about 250*l.*, towards which I have received nothing.

Being a serious loss to me, I beg to ask if you will allow me to remove my materials not used, and also my plant, which would be of about the value of 40*l.* By so doing I would be truly thankful.—W. J. Taylor."

The applicant was informed that the guardians could not give the permission; that he was in the same position as the contractors, Thorn, whom alone could be recognised.

Mr. Jas. Fergusson.—The Fould Prize, awarded triennially by a commission of the Paris Academies of the Inscriptions, Sciences, and Fine Arts, for an historical work on the Fine Arts, has not been awarded this year. According to the *Times*, Mr. James Fergusson's "History of Architecture" has been found the work of most merit, though not fully answering to the conditions, and the revenue accruing from the bequest has accordingly been awarded to him for three years.

CHURCH-BUILDING NEWS.

Grosmont (*York*).—The new church of St. Matthew was opened on the 13th inst. by the Archbishop of York. The church consists of nave, north and south aisles, chancel, organ chapel, and vestry in the lower chamber of the tower. The exterior of the edifice is plain. The church is built upon an acoustic principle derived from a musical chord, and discovered by Mr. Armfield. The aisle walls are built upon the foundations of the original church; the length of the nave has been increased as far as the outer wall of the old tower; the aisles are divided from the nave by an arcade of four bays on each side, carried on cylindrical columns, with carved caps and bases. The nave roof, is of a hammer-beam construction, with curved ribs, the portion below the hammer-beam forming groins starting from the capitals of shafts, each alternate one of which is carried down to the ground in front of the columns supporting the nave arcade and clearstory. The portion above the hammer-beam is boarded to the curve of the principals. The seats are open framing, and varnished; the heating is by the Derwent Foundry Co., Derby. The chancel is entered through a lofty moulded arch of two orders, the outer order carried on a checked pier ornamented with banded shafts, the inner order is carried on a respond. There is a rise of seven steps to the altar. The three-light east window and the triple-light in the north wall, are filled with stained glass. The chancel is built of cleansed local stone, and in the sacrarium are sedilia and piscina. The roof is curved to the same radius as the chancel arch, and is divided into panels with moulded ribs. The stalls and organ screen are of moulded oak. The floors are laid with Maw's encaustic tiles. The works have been designed by the architects, Messrs. Armfield & Bottomley, of Whitby, and carried out under their superintendence by the following contractors:—Mr. William Barton, mason; Mr. William Robinson, joiner; Mr. David Richardson, joiner; Mr. John White, joiner; Mr. Joseph Hardgreaves, slater; Mr. J. Brown, plumber; Mr. I. Bolton, plasterer.

Blackwood (*near Newport, Monmouthshire*).—On the 16th inst., a foundation-stone of a new church here, to be dedicated to St. Margaret, was laid by Miss Williams, of Maesruddud. The church, which is designed in the Early English style, will consist of a nave, 58 ft. long by 24 ft. 6 in. wide, a chancel, 28 ft. long by 20 ft. wide, a small vestry and organ-chamber, and a south porch. The gable, at the west end of the nave, will be surmounted by a bell-cot. The church will be built of a local stone obtained from a quarry at the back of the site, and Bath stone dressings. The walls of the nave will be 15 ft. in height to the wall plate, and will carry an open-timbered roof. The height from floor to ridge will be 35 ft. Accommodation is provided for 224 persons, but at present it is only contemplated to build the nave, which will hold 200 adults. Mr. Bowes A. Paice, of London, is the architect, and the contract has been taken by Mr. Esau Hargest, builder, of Merthyr Tydvil.

Wimborne.—The foundation-stone of a church about to be erected in the New Borough, Wimborne, has been laid. Mr. Walter J. Fletcher, the county surveyor, is the architect, the builder being Mr. Augustine H. Green, of Blandford. The building is dedicated to St. John the Evangelist, and the cost is estimated at about 3,000*l*. The site has been presented by the Hanham family. The style of architecture is to be the Early Decorated, the ground-plan being in the form of a cross, with two trrnsepts, north and south. There will be no aisle. From the west wall to the apse the extreme length of the church will be 82 ft., the width being 24 ft. Fareham red bricks, with exterior Doulting stone dressings, will be used in the construction, the interior dressings consisting of Corsham Down stone. The roof will be open-timbered, plastered between the rafters. There will be open seats to accommodate 400.

Alstonefield.—The chancel of this church has been re-opened after restoration. The original building was Norman. The chancel arch and a doorway in the south wall are all that remain of the original structure, if we expect a gurgoyle in the tower and fragments of the churchyard cross, one of which is built into the north aisle wall, and several others which have been discovered, during the restoration of the chancel, built into the wall over the chancel arch. The chancel is Early English, and three small lancet windows, deeply splayed, remain. The tower is Decorated, and the body of the church, speaking generally, Perpendicular, with a very plain clearstory, but, in the wall of the south aisle, two elegant windows of that period. The pewing of the church is of carved oak of the time of Charles I., and is in excellent preservation. The restoration of the fabric of the chancel has been carried out at the expense of Sir John Harpur Crewe, bart., the lay impropriator. Mr. Edward Purchas, of London, was the architect, but shortly after the completion of the designs he was disabled by illness, and the superintendence of the work devolved upon his brother, the Rev. W. H. Purchas, vicar. The walls of the chancel have been made sound, some interesting Early work has been disclosed, a new open-work roof has been put on, and in place of a debased Perpendicular window at the east end one of the Decorated period has been inserted. The east window has been filled with stained glass by Burlison & Grylls, of London. The centre light contains a picture of the Crucifixion, and on either side stand St. Peter (to whom the church is dedicated) and St. John. Beneath are three groups representing the Journey of the Wise Men of the East towards Bethlehem, their Adoration of the Infant Saviour, and their Appearance before Herod. The builder is Mr. Woodisse, of Hope, Alstonefield.

Middle Littleton.—The church of Middle Littleton was reopened, after having undergone further restoration, on the 13th inst., on which occasion an additional piece of burial-ground, given by Lord Northwick, was consecrated by the Bishop of the diocese. The present work has included a more thorough restoration of the edifice than that carried out some time ago, with the exception of the tower, which is still much in need of attention. The parishioners, under the direction of the vicar (the Rev. H. E. Godfrey Faussett Osborne), have already restored the other church, of which Mr. Osborne has the charge as well, and built new schools. The chancel has been adorned by the addition of a reredos, and other improvements have been effected. The designs for the restoration were prepared by Mr. Preedy, the architect.

Campden.—A contract has been entered into for the restoration of this church, which has been commenced. The present contract extends to the repair of the roofs of the north and south aisles and north transept, the restoration of the parapet and turrets of the tower, the enlargement of the vestry, the formation of a dry area around the church, the reglazing of the whole of the windows, the putting in of heating apparatus, and the fixing of a lightning conductor to the tower. The north gallery has already been removed. The work of restoration will consist of the removal of the western gallery, the opening out of the west window, the repewing of the church, and other matters. Messrs. Patman & Fotheringham, of London, are the contractors; and Mr. Habershon is the architect.

Birmingham.—The work of renovating and decorating St. Thomas's Church, though not yet completed, is so far advanced that the building was re-opened on Sunday last. Hitherto St. Thomas's has been devoid of all internal ornamentation to relieve the plainness and cold appearance of the building, beyond what was furnished by whitewashed walls and a whitened flat ceiling. The panels of the ceiling are painted a rich blue, with buff "styles" or margins, the larger bands being a French grey, with gilded intersections and fret ornamentations at returns. The cove has Greek honeysuckle enrichments on a buff ground. The walls generally are a French grey, the architraves of the windows being worked in buff, with a leaf enrichment. The gallery fronts, which before were simply oak-grained, are now worked in a combination of colours, consisting of browns, maroon, and blue, with an enrichment worked on a gold ground, while the columns supporting the galleries are a bright blue, with gilded capitals and maroon bases. The centre panel of the ceiling bears the monogram "I.H.S." in gold, and on the panels on either side there are devices worked in gold on a blue ground. The pews are painted a dark colour and varnished. The cost will be about 500*l*. The architect was Mr. Yeoville Thomason, from whose designs the work has been executed by Mr. Seers.

WATERTIGHT PONDS.

SIR,—Having lately constructed some Ponds with concrete on a large farm, for agricultural purposes, and as yet they do not prove a success, not being perfectly watertight, could any of your readers give me any suggestion in making them so, at the least expense, by any other means than cementing them? We have at least the advantage of a good firm bottom to work on. R. S. W.

DISSENTING CHURCH-BUILDING NEWS.

Broughty Ferry.—On the 26th ult. the foundation-stone of the Queen-street United Presbyterian Church, which is being erected for the congregation worshipping in the Public Hall, Broughty Ferry, was laid by Provost Cox, of Dundee. The church is in the Geometrical Pointed style of architecture. The entrance, being at the south-west corner, gives access under the spire to a corridor, in the centre of which is the inner door to the area; passing over the tower porch is a gallery staircase; contiguous to the corridor are ladies' cloak and retiring rooms. At the opposite or pulpit side of the church are an organ apse and choir-room, approached by special entrance at the end. There is a third external door, intended to communicate with future vestry and lecture-hall, but in the meantime serving as means of egress to the congregation. The church has been arranged on plan as nave and aisles, separated from each other by iron columns. This arrangement is expressed externally by gables pierced with vertical and circular windows. At the entrance, or south-west angle, are the tower and spire. The church is to be arranged to accommodate 575 sitters. All modern church appliances have been provided for. Messrs. Maclaren & Aitken are the architects, and the designs are being carried out by Messrs. A. & J. Black, masons; Mr. James Steven, joiner; Mr. Murray, plumber; Mr. Fyffe, slater; and Messrs. Adam & Son, plasterers. The cost will be about 3,500*l*.

Rossett.—For about sixty years past there has been at Rossett a Presbyterian church, situated by the side of the turnpike-road, near to where there was a ford which had to be used by vehicles. Accidents having taken place, it was considered advisable to erect a bridge, for which purpose the road was diverted: the chapel was therefore not in so favourable a situation as it was previously, and it was found necessary to erect a new building. Mr. Alexander Balfour, of Liverpool, gave the site, which was purchased for 260*l*., and is situated in a prominent position on the high road. The building is estimated to cost 800*l*. The architect is Mr. Douglas, of Chester, and the chapel, which will accommodate 250 persons, will be of Gothic design, its outer walls being of rubble faced with Cefn stone.

Dorchester.—The foundation-stone of a new chapel about to be erected by the Primitive Methodists in Durngate-street has been laid; the site has been given by Mr. H. G. Sturt, M.P. The building is designed in the Early Gothic style. Externally it will be built of Broadmayne bricks with stone dressings, the walls built hollow and at a ground level a course to exclude damp. The gabled front has four buttresses, the two corner ones have quadrangular pinnacles with carved finials; the apex of the gable an iron ornamental finial. The front entrance, in addition to the stone jambs and arch, will have a column on each side with carved cap and moulded base. Over this doorway is a triple window with traceried head. The spaces between the buttresses on each side of the door have lancet windows. There are five buttresses projecting on each side, and between each are two-light windows. The roof will be covered with Bangor slates, with courses of Penmoyle green slate, the ridge having ornamental tile cresting. The roof principals are partly exposed. The walls are boarded from the floor above the pews, and the upper part stuccoed. The internal fittings are of pitch pine, stained and varnished. The chapel is 31 ft. by 39 ft., and 17 ft. high; at the sides of walls 26 ft. 6 in. to ceiling; and will accommodate 200 persons. Mr. Samuel Jackson, of Weymouth, is the architect; and the work is being executed by Messrs. Davis & Son, of Dorchester, the contract price being 600*l*. Ground is reserved for extension of the chapel, and erection of a school-room.

Eastwood (*Rotherham*).—Four memorial stones have been laid of a new Wesleyan chapel here. The building will accommodate about 800, and will have a gallery all round; the one at the north end, which is over the vestries, will be for the organ and singers. Under the chapel is a large school-room, with class-rooms; also heating-cell, kitchen, lavatories, &c. The chapel is approached in front by a wide flight of steps leading from the street, and the fittings are pitch-pine varnished. The cost, exclusive of site, will be 3,000*l*. The architects are Messrs. Tacon & Rawson, of Rotherham; and the builder is Mr. Thomas Saul, of Mexborough, near Rotherham.

Chesterton.—Latterly, from the increase of the population of Chesterton, the Wesleyan chapel has become much too small for the congregation connected with it. Consequently the trustees have decided upon the erection of a new place of worship. The site is near the present chapel, and occupies a commanding position in the district. The memorial stones, four in number, were laid on the 16th inst. The building will be erected from the designs of Mr. G. B. Ford, architect, Burslem. The design of the chapel is Italian in character. The gallery will be extended on three sides, and the building will seat about 550 persons. The chapel will be erected by the Rose Vale Building Company, and the cost, inclusive of 400*l.* for the site, will be about 2,400*l.*

NEW ASSIZE COURTS AT NEWCASTLE.

The present assize court sat Newcastle for the transaction of the county and town business, having for some time been found to be altogether unsuitable for the purpose, the county and town authorities contemplate the erection of entirely new courts, in which the assize business of the county of Northumberland as well as that of the town of Newcastle, shall be conducted under one roof. It appears that the existing courts are not only small and inconvenient in themselves, but that their situation, in immediate proximity to the railway, has frequently called forth complaints from the judges on circuit, owing to the constant annoyance kept up by the railway whistle. The subject was taken into consideration last week, at the Midsummer sessions of the county of Northumberland, when the presentment by the assize grand jury recommending the erection of new courts was discussed. The mayor of Newcastle, one of the magistrates present, said it was on every ground desirable that new courts should at once be built, and there would be no difficulty whatever in raising the money required, which it was estimated would be from 100,000*l.* to 120,000*l.* The only difficulty would be the making of arrangements between the county and the town as to joining in the cost. It was finally agreed that new courts should be erected, and a committee of magistrates of the county was appointed to confer with a committee of the Newcastle town council as to the best means of carrying out the object.

SALE OF PERDISWELL HALL.

Perdiswell Hall, near Worcester, one of the most ancient seats in the county, and which has been identified with the family of Sir Offley Wakeman for many generations, was last week brought to the hammer. The house was rebuilt about sixty years ago, at a cost of about 20,000*l.*, and it was stated at the sale that it had taken the Wakeman family nearly a century to get the property together. In offering it for sale, the auctioneer stated that, if divided, the estate ought to fetch 200*l.* per acre, and in that event it would realise about 24,000*l.*, the estate comprising an area of 120 acres. After some active biddings, the property was knocked down to Mr. John Skipworth Gibbons, of the Leasowes, Halesover, Worcestershire, for 24,000*l.*, in addition to which the purchaser had to take, under the conditions, a portion of the timber on the estate valued at 1,350*l.*

THE OPENING ADDRESS: BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

The truth is not always pleasant: still it ought to be told. Sir John Hawkshaw's address at Bristol, on Wednesday, was a failure, and is so considered by all who heard it,—quite unworthy of himself and the Association, as, although containing some curious matter, it can, for the most part, be found in elementary works.

Foundation-stone, Stanley.—On the 17th inst. the foundation-stone of the new church of St. Thomas, to be erected at Stanley, near Crook, was laid. The parish is entirely a new one, and has a population of about 4,500. The building, which will seat between 300 and 400 persons, will be erected on land given by Messrs. Bolckow, Vaughan, & Co., large coalowners in the neighbourhood, and when finished will cost nearly 3,000*l.*, 2,000*l.* of which sum have already been subscribed.

THE STAR THEATRE AND MUSIC HALL, BRADFORD.

A new place of amusement has been erected near the bottom of Manchester-road. The music-hall portion was opened on Monday last. This section of the building is for all practical purposes separate from the theatre that will be erected on the top of it. To adapt the building somewhat to the shape of the piece of ground upon which it has been built, the main façade has been erected in the form of a crescent. The front is not a very ornate one, strength and simplicity seeming to have been the qualities more particularly aimed at by the architects. There are two arched doors in the centre of the front, entered on a level with the street, one of the doors leading to the pit, and the other to the upper seats,—balcony, promenade, boxes, &c. There is also an arched door at each corner, opening directly into the street, the one on the left being the stage-door, and the one on the right an extra exit door for the pit. The pit is reached by a descent of twenty-eight steps, and the arrangements are such that if visitors find on reaching the bottom of the first staircase that the seats in that quarter are occupied, but there is room on the other side of the hall, they have simply to pass on through a corridor that runs under the stage to get into the pit on the opposite side to that on which they entered. The music-hall will accommodate over 2,100 persons, 1,000 in the upstair seats and 1,100 in the pit seats; besides which there are private box occupiers. The height of the building from floor to ceiling is 32 ft.; it has an average width of 70 ft. The stage is 6 ft. from the floor of the pit, and the proscenium opening is 26 ft. wide by 21 ft. high. From wall to wall the width of the stage is about 50 ft. and it is 19 ft. in depth. The balcony or gallery of the hall is raised 8 ft. 6 in. from the bottom of the pit at the front, and 10 ft. at the back, being supported by a number of massive iron pillars. There are six rows of seats round the balcony, each 2 ft. 8 in. in depth, and from 18 in. to 22 in. in height, one above the other. At the top of the balcony there is a promenade capable of accommodating a large number of spectators. The balcony will seat 400 persons. There is a fall of 4 ft. 6 in. from the back to the front of the pit. The hall is lighted by twelve sunlights,—three on each side on the upper floor, and the same in the pit, the hot air being carried off by sheet-iron flues.

The scenery has been painted by Mr. Samuel King, of Bradford. Mr. Charles Fox, of London, has painted the act-drop. Messrs. Jackson & Longley, of Bradford, are the architects; and the following Bradford tradesmen have done the various works in connexion with it:—Mr. H. Birkby, mason; Mr. John Shepherd, joiner; Messrs. Howroyd & Sons, plasterers; Messrs. Sutcliffe & Wilkinson, plumbers; and Mr. Samuel Oddy, painter.

BURSTING OF A RESERVOIR AT CARDIGAN.

On the 17th inst. the upper or new mill-pond, in connexion with the Cardigan brickworks, about a mile and a quarter from the town, burst. This reservoir, in extent about seven acres, is formed in a natural hollow about 150 yards above New Mill, a barrier across its mouth damming up the water, and was provided to supply water to the machinery at the brickworks. Below New Mill is another pond, formed some years ago to provide water for the Cardigan flour-mill; below this the stream flows under Tregibby Farm to Stepside Farm, and thence to the Mwldan brook and brickyard. Owing to the heavy rains in the night the upper reservoir had become full, and on the men going to open the sluices to relieve the pressure against the embankment, it was observed to be giving way, and the men had scarcely time to escape to give notice at New Mill before the whole front of the pond gave way, and the water rushed down in an immense wave, destroying the waterwheel of Capel Farm in its course to New Mill, and committing great havoc, and destroying the Stepside Bridge. At the brickworks the damage done is immense. Passing the brickyard the water assumed the appearance of an immense wave, flooding portions of the Bathhouse Farm, and carrying away a rick of hay as it stood, which, in its course downwards, struck against a house, which, with its contents, was utterly demolished. From here down to the river Tivy, every house in the Mwldan was flooded, and two lives were lost. The slaughter-house and Middle Mwldan bridges are thoroughly destroyed, and the Upper Mwldan bridge partially so.

The Town Council took immediate steps to shelter the people who had lost their all. The loss is estimated at 12,000*l.*

THE RUINS IN IONA.

In the summer of 1873, the Duke of Argyll requested Mr. R. Anderson, architect, Edinburgh, to visit the island and report as to the best mode of dealing with the buildings, which, up to that time, had been left for the most part to fight their own battle with the elements and other destructive agencies. Operations were commenced in the following season, and were continued through the months of August, September, and October. April of the present year saw the work resumed. The general results attained are of a satisfactory character. The accumulations of soil and rubbish which concealed large portions of the ruins have been cleared away, so that the plans of the nunnery and monastery can now be made out. Four of the seven chapels have also been restored to view, and, in the case of these, as well as the other buildings, steps are being taken to preserve the walls from further decay. One cause of dilapidation has been the removal, for ordinary building purposes, of the squared stones forming the jambs of doorways or the angles of walls. The gaps thus created have been filled up with solid masonry similar to that which had been picked out, and in this way the walls have been put in a better position to resist the effects of rain and frost. The freestone for this purpose has been obtained at Carsaig Quarry, on the island of Mull, from which, it is understood, the material for the building was originally procured. In the course of the excavations which have been made, a large number of sculptured stones have been turned up, and these, of course, have been carefully preserved.

CASES UNDER METROPOLITAN BUILDING ACT.

Mr. Thomas Jenner, the builder of three houses in Shirland-road, was summoned on August 21, before Mr. Mansfield at the Marylebone Police-court by Mr. Horace Gundry, district surveyor for Paddington, for omitting to render the backs or outsides of the flues as required by the 4th rule of the 20th section of the Metropolitan Building Act.

The defendant argued that the proceedings were premature as the plastering of the houses was not even commenced, but the district surveyor pointed out that such parts as are covered by the floors and roofs should be rendered before the timbers are fixed.

Mr. Mansfield asked what was the object of plastering those parts, and the district surveyor explained that it afforded a great security against the escape of smoke and heat.

Mr. Mansfield ordered the work to be amended in seven days, and the defendant to pay costs.

ARCHITECTS' RESPONSIBILITIES.

PRANGNELL *v.* STRATTON.

The plaintiff in this case, at the Bristol Assizes, was a brickmaker, living at the Isle of Wight, and the defendant was an architect, carrying on his profession at Newport, in the Isle of Wight. In the month of May or June, 1873, the defendant was employed to build a house for Mr. Alpe at Freshwater. The defendant called upon the plaintiff's wife, and, saying he was about to build a house, inquired whether the plaintiff would supply the bricks. She asked who was to be the builder, and Mr. Stratton said Mr. Kennett. In consequence of something she said the defendant stated that he would be answerable, and the bricks were supplied. Defendant paid for some by a bill of 45*l.*, which was honoured, and a cheque for 75*l.* He accepted another bill for 40*l.*, and there was a balance due of 119*l.*, upon which sum 6*l.* interest had been charged, and it was to recover these amounts that the action was brought.

For the defence it was contended that the credit was given Kennett, and that all that defendant had undertaken to do was to stop back money for the bricks supplied by the plaintiff from the instalments becoming due to Kennett for the building of the villa, and that in that way he had given the acceptance for 45*l.* and a cheque for 75*l.*

The jury gave a verdict for plaintiff for 119*l.*

A Church Struck by Lightning at Blundellsands. — The new church of St. Nicholas, Blundellsands, was struck by lightning during the recent heavy storm. The stone cross which surmounts the gable at the west end was knocked down, and broken in pieces, doing some damage to the roof in its fall, and a strip about 2 ft. wide of the slates, from the pitch of the roof down to the gutter, was entirely removed, the broken slates being scattered in all directions. Some men who were sheltering under the wall narrowly escaped injury.

SANITARY AND ÆSTHETIC SCHOOLS WANTED.

SIR,—The parish school named in the *Builder* of the 14th inst., as Leberton, should have been Liberton, little known to fame further than in Scott's "Heart of Midlothian," where it is mentioned as the scholastic field where Reuben Butler, the sweetheart of Jeanie Deans, taught as assistant dominie.

Visiting the school-house yesterday, I was surprised to find that the recently formed school-board had ignorantly removed the vertical fresh-air shafts of the Taylor (?) Tobin (?) system, such being far a-head of their conceptions in ventilation, where there were windows that could be opened if wanted, and the regulation holes in ceiling, and air-gratings provided in floors. In fact, the School-boards throughout Scotland, now building with undue haste so many hundreds of schools, have no other system of ventilation, even where the walls and windows are low, and the ceilings carried up to the roof-ties. No consideration is given to provide opening windows flush with the ceilings of those inverted bucket-like roofs so as to dislodge the vitiated air that lurks so much there.

At the very time when a general desire is expressed to educate the mind by works of art in our streets, it is curious to see the bust of George Heriot taken from the old High School yards in Edinburgh and placed in a chimney-pot fashion* on the gable apex of a new school in a recently-built locality. Such is a poor lesson, indeed, from the governors of the richest scholastic institution in Scotland; and then we have the ostentatious Free Kirk Normal School, located in Moray House, Canongate, disregarding the Architectural Associations of 250 years ago, that surround them; for, like Vandals, they have ruthlessly rough-cast over and coated with lime-wash the fine carved scrollwork on the stone lintels, that ought to have been cleaned and tricked out as lessons for this imitative age of masonry.

J. K.

FROM AUSTRALIA.

Melbourne.—The *Illustrated Australian News* of June 14 gives illustrations and descriptions of improvements in progress in Melbourne, including the new Art Gallery just opened.——According to the *Melbourne Age*, a substantial addition to the first-class business premises in Melbourne has just been completed in Collins-street West, for the firm of Edward Cohen & Co., auctioneers. The roof over the upper story is constructed on semicircular iron principals; and there being skylights in the roof, not only is this floor well lighted, but also the lower room and offices through the well-opening in the upper floor. The whole of the premises, with the exception of the front offices, has been rebuilt under the superintendence of Mr. Charles Webb, architect, by Mr. Cunningham, the contractor, at a cost of 6,000*l.*——The tender for the construction of the eleven miles of railway from Tarrawingee to Beechworth is at a lower sum than was expected, the exact amount being 70,108*l.*, although the opinion of most experts was that the line would cost at least 100,000*l.*——The foundation stone of the Toorak Presbyterian Church was laid on May 24, in the presence of a considerable number of people. Messrs. Reed & Barnes are the architects for the building, and the style is Early English, cruciform in plan, the nave being 72 ft. by 28 ft., and the side aisles 60 ft. wide, divided from the nave by piers, columns and arches. Accommodation is to be provided for 450 persons, and the total estimated cost is 5,500*l.* The portion now being built is the nave and side aisles as far as the transept. The tower will not at present be carried higher than the first story, 32 ft. This portion will afford sitting accommodation for 250 persons. The contract for these works has been taken by Mr. James Bonham for 2,648*l.*——The sale of Crown lands has been resumed. The lots north of the cemetery realised higher prices than those obtained in Canning-street. The average price obtained for the lots at Carlton was 1*l.* 15*s.* per foot, the upset being 1*l.* per foot; the highest price obtained was 4*l.* 7*s.* 6*d.* per foot. The lots at Coburg, offered at 20*l.* per acre, realised 27*l.* and 29*l.* respectively. The amount obtained by the sale was 5,382*l.* 6*s.*

* It may surprise your readers to know, even in these days of Orientations and symbolisms in architecture, that on the east gable of the *quoad sacra* Kirk of Ladhope, Galashiels, there is a massive sculptured cross which is actually a chimney!

Books Received.

Practical Geometry and Engineering Drawing. By G. SYDENHAM CLARKE, Lieut. R.E. Spon & Co.

LIEUT. CLARKE is instructor in geometrical drawing at Cooper's-hill College, and a few words from his preface will best explain the origin as well as the plan of his book. In dealing with large numbers of students, the writer felt the want of "a text-book which explained first principles fully and systematically, which preserved a clear and logical sequence throughout its pages, and which furnished examples bearing directly on the subject-matter of each chapter. Existing works did not satisfactorily meet the case. Some supposed the student to know too much, others gave him credit for knowing nothing. . . . . The objects of the writer have been to bring general principles into prominence, to illustrate those principles by a variety of problems fully explained, pointing out at the same time any peculiarities worthy of remark; and finally, to append to each chapter a number of problems, with occasional hints as to their solution." The plan thus sketched out is systematically adhered to, each chapter in the section on solid geometry starting from principles and definitions, going through explanations in detail, and concluding with examples. Two chapters on the methods of execution of engineering drawings, and the selection and use of drawing instruments, furnish the student with common-sense practical hints on subjects which, though secondary, are not unimportant in regard to rendering drawings clear, neat, and intelligible. Here, also, Lieut. Clarke teaches by example:—"Care has been bestowed on the plates, that they may be as far as possible examples of drawing, and not mere Euclid figures. By a strange irony, illustrations to works of the kind are too often more fitted to serve as warnings than as guides to the student. The two elements of success in draughtsmanship are sound theory and continued practice. No text-book can supply the place of the latter; but due attention to written instructions will at least save time—and paper." In another respect the volume is a protest in favour of care in details, for it is one of the most clearly and cleanly printed instruction-books we remember to have seen; everything is properly grouped in regard to type, and the fine paper and wide margin give quite an *air de luxe* to this engineering lesson-book, which certainly will not, on that account, be either less attractive or less useful to the students for whom it is intended.

The Mechanic's Guide: a Practical Hand-book for the Use of Engineers, Mechanics, Artisans, &c. By W. V. SHELTON. Charles Griffin & Co.

THE compiler of this treatise, who is foreman of the Imperial Ottoman gun-factories at Constantinople, states as his object "the gathering into one connected *whole* the principal subjects relating to various branches of the mechanical art, and placing before readers who may not have much leisure for study a concise and simple explanation of general principles, together with illustrations of their adaptation to practical purposes. . . . The book is the work of a practical mechanic, who may not have the language of a professor at command, but who has tried, to the best of his ability, to supply, honestly and thoroughly, information such as he knows to be greatly needed by intelligent mechanics at the present day." The book is, in fact, intended to be to the working mechanic what Molesworth's and other pocket-books are to the engineer and architect. It is a book of reference giving arithmetical formulæ and practical instructions for the carrying out of a great many problems in mechanical work, especially in regard to the setting out and proportioning of parts of machinery. Numerous tables, of the weights and specific gravities of materials, the circumference and areas of circles, &c., are added in an appendix; and the volume appears to be the result of considerable thought and care, as well as practical experience. Short treatises on arithmetic, practical geometry, and mensuration, precede the experimental chapters. The book ought to be of much use to artisans, but in some respects will hardly be actually made as useful as it might be, for we suspect few of those for whom it is intended will take the trouble, for instance, to go so much into the theory of such an operation as setting out the spurs of a wheel, as the author does. The theory is interesting as a matter of investigation, but in practice there is so much room for getting over an inaccuracy of theory by adjustment, that experience is likely to be the guide with most men; and so in some other matters. The artisan who wishes to know the reason and philosophy of his operations, however, will find much instruction here given without pedantry or pretension; and there is a great deal of purely practical information, the value of which, in this comprehensive form, will be obvious to every one.

The Mechanic's Friend: a Collection of Receipts and Practical Suggestions, with numerous Diagrams and Woodcuts. Edited by W. E. AXON, M.R.S.L., F.S.S. Trübner & Co.

THIS is a small volume giving practical illustrations in a great variety of mechanical problems, large and small, rather for the information of amateurs in mechanics than of the regular workman. The variety of subjects dealt with is very great, and the book is so far different from a number of popular handbooks of a similar kind, that it is not the work of a single, and perhaps not very "admirable" Crichton, but is a record of the experience of a number of persons, each in regard to the particular branch of work he has familiarised himself with. The substance of the volume has appeared in the *English Mechanic*, and the miscellaneous articles of which it is composed have been collected and edited by Mr. Axon. There is a considerable fund of information in the book, some of it useful and suggestive, nearly all of it interesting, in one way or another.

Miscellanea.

Damage to an adjoining House.—The case Crickett *v.* Coleman tried at the Trowbridge County Court recently, and adjourned, has been decided as follows:—The defendant purchased a house in the Market-place, next door to that which the plaintiff owns, pulled it down, and rebuilt it; and in doing this the workmen damaged the adjoining house, for which the plaintiff claimed compensation. The defendant employed a contractor, and it was part of the contract that a parapet should be made projecting over the roof of the plaintiff's house. This was a trespass. So, too, originally, plaintiff's house was the taller, and had eaves projecting over the defendant's house; the defendant told his contractor, by the contract and the plans, to build up his house higher than the plaintiff's. To do this, the contractor was compelled to cut off the plaintiff's eaves, and consequently all through the winter the water entered at the top of the house and poured down the staircase, and did permanent damage to the house. For all acts of this kind ordered by the defendant, the judge (Caillard) held the defendant liable. The plaint averred also many other acts of a different character. The defendant had paid 5*l.* 10*s.* into court, not specifying under which particular head or heads of damage it was paid in. The judge decided that the payment into court did not estop the defendant for setting up the defence that he was not the person liable, and that the contractor ought to have been sued instead. For all acts, directly or indirectly ordered by the contractor, the defendant was held liable; and all his other defences in fact falling to the ground, the case ended in a verdict for the plaintiff for 21*l.*, and costs.

Social Science Congress.—The following have consented to deliver addresses on the various classes of exhibits at the Exhibition of Sanitary and Educational Appliances, to be held in connexion with the forthcoming Social Science Congress at Brighton: 1. Warming, Ventilating, and Lighting,—Captain Douglas Galton, C.B., F.R.S.; 2. Domestic Appliances and Economic Apparatus,—Mrs. Amelia Lewis; 3. Sanitary Architecture and Appliances,—Mr. George Godwin, F.R.S.; 4. Sanitary Engineering and Methods of Disinfecting,—Mr. Baldwin Latham, C.E.; 5. Food and Clothing,—Dr. William Hardwicke; 6. School Furniture and Educational Apparatus,—Professor W. B. Hodgson, LL.D. The Mayor will preside at the opening of the Exhibition, and Sir J. Cordy Burrows will address the assemblage.

National Federation of Trades Unions.—The Trades Unions Parliamentary Committee have issued a manifesto to the officers and members of the trade societies of the United Kingdom as a preface to their proposed code of rules for the government of the federated trades.

Cesspools Advocated!—At a special meeting of the Rural Sanitary Authority, Beverley, on the 18th inst., under the presidency of Mr. Burton, J.P., the subject of the drainage of South Cave was taken into consideration. A report was received, from which it appeared that the chairman, the medical officer of health, the clerk, and the inspector of nuisances, along with some of the members of the parochial committee, had recently inspected the parish. They found that there was no public pump in the village, and that much inconvenience was caused to the inhabitants in consequence. Some of the houses had private pumps, and many of the inhabitants derived their water supply from the village beck, which was polluted by the drainage from a number of houses, including a slaughter-house. The parochial committee was of opinion that the best plan would be to cover up the main drain in the market-place, and cut off all communication from this and the private drains with the beck, and leave the occupiers of the houses on each side to make cesspools behind their premises. This they could do at a trifling cost compared with the plan proposed by Mr. Harrison. After a discussion it was agreed by the authority, that the Parochial Committee should have three months given them to complete such a system of drainage as they deemed most desirable.

Railways.—The Board of Trade has issued a summary of our railway returns for the last twenty years, showing the remarkable progress made in that time. In 1854 there were, in the United Kingdom, 8,053 miles of railway open for traffic, and at the end of 1874 there were 16,449 miles, or more than double the former number. The ordinary stock has only risen from 166,030,806*l.* in 1854 to 248,528,241*l.* in 1874, the increase of capital having been chiefly in that which has a fixed rate of interest. Thus the guaranteed and preferential stock has increased from 49,377,952*l.* in 1854 to 200,930,629*l.* in 1874, or fourfold. The receipts from traffic have arisen from 20,215,724*l.* in 1854 to 56,899,498*l.* in 1874, or, adding rents, tolls, navigation, &c., 59,255,715*l.* The working expenditure constituted but 47 per cent. on the receipts in 1860, and was the same in 1871; but prices have risen, and in 1872 the expenses reached 49 per cent.; in 1873, 53 per cent.; and in 1874 they were 55 per cent. Still, the net receipts, which were but 4·19 per cent. on the paid-up capital in 1860, reached 4·37 per cent. in 1874. The recent rise in prices has materially affected the cost of construction and working of railways. In the year 1874 the gross receipts of the railway companies of the United Kingdom amounted to nearly sixty millions sterling, and the net receipts exceeded half a million a week.

A Builder Committed for Stealing Materials.—Joseph Windred, a builder, of Hounslow, was charged on a summons at the Brentford Police-court on Saturday with stealing a bundle of slate battens, the property of Capt. F. Vansittart, of Montpelier-row, Twickenham. The defendant was employed to carry out certain alterations at some house in Montpelier-row, Twickenham, so far as the work and labour were concerned, the complainant finding all the materials. Amongst these were eight bundles of slate battens, supplied on the understanding that what was not required should be taken back and allowed for. A man named William Neighbour, who had been in the defendant's employ, stated that seven bundles only were used, and the other bundle was removed by order of Windred to his own premises at Hounslow, and converted into a hen-house by witness for the defendant's fowls. At the same time he removed 100 slates by order of defendant. For the defence it was stated that there was an agreement between the parties for the work to be done for the sum of 109*l.*, and that complainant still owed defendant a balance, and an unstamped document to that effect was produced, but it was not signed by either complainant or his wife. The justices committed the defendant for trial.

Opening of the Temperance Hall at Newbury.—This hall was formally opened on the 17th inst., amid much enthusiasm in the temperance circles. The building, which stands facing the south, in Northcroft-lane, was for many years used as the National schools for this borough, and latterly as the Gospel-hall; but, under the hands of Mr. James, builder, of Pound-street (with Mr. H. Flint, jun., as architect), its appearance has been entirely changed, and where once stood a dilapidated school-room is now erected a very substantial, as well as useful and ornamental, hall.

Fatal Walk through Plate Glass.—Mr. Edward Holmes Baldock, formerly M.P. for Shrewsbury, who died recently at his residence in Grosvenor-place, at the age of sixty-three, was the son of the late Mr. E. H. Baldock, by a daughter of the late Mr. Gorringe, and was born in the year 1812. A few weeks ago he went to Kensington Palace Gardens to inspect the residence of Alexander Collie, which was then open to the public previously to being put up for sale. Among other additions to one of the apartments was a conservatory, filled with superb exotics. Mr. Baldock, advancing to the door to examine them more nearly, walked through a large sheet of plate glass which filled the aperture, and of which, there being nothing to denote its existence, Mr. Baldock was of course unaware. The ill-fated gentleman severely lacerated one of his legs just above the knee, and, though the arteries escaped, it would seem the nerves and tendons were injured to an alarming extent. The best medical skill was speedily called in; but erysipelas set in, which could not be reduced, and death ensued. We know two or three houses where a similar accident may occur any day.

A Yorkshire Antiquary.—Mr. Robert Davies, an antiquary of local celebrity, died on Monday at York, at the age of eighty-two. The deceased gentleman was formerly a solicitor in York, and was town clerk from 1827 to the year 1848. After his retirement from business, in archæological research he spent a very large portion of his leisure time. In the muniment-room of the ancient Guildhall at York he might be found almost any day; and in this manner he made a special acquaintance with the modern history of the city, about which he possessed more knowledge than any living man. His whole time was given up to literature, and as a result he has left a number of interesting works behind him. The first of these, published in 1846 or 1847, may be said to be the "York Records," which consisted of a number of papers illustrative of the history of York in the fifteenth century, or the time of Richard III., derived from the records of the York Corporation. Then he issued the "Memoirs of the York Press," which consisted of a list of the works printed in York, and notices of their authors. This the public received so recently as 1868.

Strike of Bricklayers' Labourers.—A fortnight since the bricklayers employed in the erection of the new Chester Workhouse applied for an increase of wages from 34*s.* to 36*s.* per week, and last Saturday they were paid at the rate of 36*s.* per week. Since then they have been placed on the hour system, and will be paid at the rate of 8*d.* per hour. The bricklayers' labourers were getting at the same time 23*s.* per week, but as the bricklayers were put upon the hour system they asked to be treated similarly. This was agreed to, and they were offered at the rate of 5½*d.* per hour, which would bring their wages up to 23*s.* 10*d.* per week; but they refused to work under 5½*d.* per hour, which would bring their salary up to 25*s.* per week. This Mr. Tomlinson, the contractor, refused to agree to, as well as the second proposition of the men that they should work day-work at 24*s.* per week. The men have, as a consequence, struck, and the result is that the bricklayers are also out for want of labourers.

Bad Mortar.—A successful prosecution of a builder for *using bad mortar*. What next! says the *Sherborne Journal*. "Why everybody will be obliged to be honest. A pretty state of things this for a civilised society living in a land of liberty. By-and-by we shall hear of successful prosecutions of house-proprietors for taking extravagant rents for dwellings no better than pig-sties. In the case we refer to it was stated that the mortar contained 80 per cent. of loam (which is a term often applied to road dirt). The Stipendiary, a London magistrate, Mr. Ingham, saw the wall and ordered it to be pulled down in seven days. He did more by that decision than Government has done all this session in the way of sanitary reform." [It was time for some one to interfere, for half the suburbs of London are built with mortar with a very small element of lime in its composition.]

Sewage pumped into the Thames.—According to returns furnished by the engineers of the Metropolitan Board of Works, the average daily quantity of sewage pumped into the River Thames was 310,567 cubic mètres at Crossness and 347,079 cubic mètres at Barking, equivalent to about as many tons by weight.

The Laird Memorial.—The committee of the Laird Memorial Fund has now on view, at the Birkenhead School of Art, near the park entrance, a number of models sent in by artists in competition for selection for the intended bronze statue of the late Mr. John Laird, M.P., to be erected near Woodside Ferry. The models are in plaster, sixteen in number, one being a bust, and the others the full-length figure. In consequence of the whole of them having been designed from photographs, any person who was intimate with the personal appearance and *tout ensemble* of the late Mr. Laird will at once notice that none of the models now on view are all that could be desired. Two approach nearer to an ideal likeness than any of the others. The committee of selection met on Tuesday, to decide which of the models, if any, should be selected. We understand that the committee have received subscriptions amounting to nearly 2,500*l.*, and with that sum they ought to be able to place on the site selected a monument worthy of it.

Winter Gardens for Blackpool.—Negotiations have just been completed for the purchase of Bank Hey, the residence of Mr. W. H. Cocker, J.P., Blackpool, with the land adjoining it, as a site for winter gardens, the amount of purchase-money being 23,000*l.* The new company will have a registered capital of 50,000*l.* in 10,000 shares of 5*l.* each, and many applications for them have already been made, and the scheme is looked upon as a very good speculation. Bailey's hotel, which was recently suggested as a site for winter gardens, has been sold to a company in course of formation in Rochdale for 62,000*l.* The proposal to form the winter gardens on the site of the Lane Ends Hotel and Hygiene-terrace will now be abandoned.

Accidental Death of a Builder in the Farringdon-road.—Mr. Langham, deputy-coroner, held an inquest on the 20th inst. at St. Bartholomew's Hospital upon the body of Edward Rees, aged 32, a builder, of Fenwick-place, Clapham-rise. From the evidence it seemed that the unfortunate man was standing on the roof of a newly-erected goods warehouse in the Farringdon-road on the 19th inst., giving directions to some men about a pillar which was being hoisted. By some mischance the deceased let go his hold of the scaffolding and overbalanced, and pitched head foremost to the stones below, a distance of 48 ft., and was so dreadfully injured that he expired in three minutes. A verdict of "Accidental death" was returned.

Holy Trinity Church, Wimbledon Park.—A Munich window, the gift of Madame Lind Goldschmidt, has just been placed in this church, in memory of the late Dr. Wilberforce, Bishop of Winchester. The subject chosen is the Transfiguration of our Lord on Mount Tabor, with Moses and Elias on either side. In the extreme lights are figures of St. Boniface and St. Swithin, while beneath is a representation of the late Bishop confirming children. Under the figure of the Saviour are the words,—"He that believeth on the Son hath everlasting life." The window was executed by Messrs. Mayer.

Threatened Stoppage in the Cabinet-making Trade.—The Manchester and Salford branch of the friendly society known as the Operative Cabinet and Chair Makers, Carvers, and Wood Turners of Great Britain and Ireland, has issued a notice to the employers demanding an advance of 2*s.* per week upon the present rate of wages. The employers deny that the operatives are underpaid in comparison with workmen in the building trades, and they assert that the cabinetmakers are in many respects better off than other workmen, their time being more certain and their work being less liable to be broken.

Munificence of the Mayor of Sheffield.—In addition to the Mayor of Sheffield's gifts of a park and almshouses to the town, it was announced at a meeting on the 18th inst. that Mr. Firth had promised to provide, at a probable cost of some 15,000*l.*, a building for the lectures and classes commenced there and elsewhere by the Universities. It is understood that Mr. Firth will also subscribe 1,000*l.* towards a scholarship fund if 9,000*l.* are raised by the town for this purpose.

The Clerkenwell Surveyor.—At the last meeting of the Clerkenwell Vestry, Mr. G. I. Cox, assistant surveyor, Vestry-hall, St. Luke's, was appointed, from nearly thirty candidates, to the office of surveyor of the parish, in the place of Mr. Sanders Beven, deceased.

British Association.—At the meeting now going on in Bristol, Mr. Leone Levi will lay before the Association the report of the committee formed to inquire into the "economic effects of combinations of labourers and capitalists, and on the law of economic science bearing on the principles on which such combinations are founded." The chairman of the committee is Lord Houghton. A conference was held between the leading parties from both employers and employed, and the report deals with all the questions then raised and discussed.

The Mayo Memorial.—The statue itself is 9 ft. in height, its weight three tons, and it is carved from a solid block of Sicilian marble. The Earl is represented clothed in his robes as Viceroy of India, the long robe or cloak falling from his shoulders in effective masses of drapery, giving great importance and grandeur to the work. The left hand rests on the hip, the right holding a scroll emblematical of the statesman. The *pose* of the statue is effective, and the likeness good. The sculptors are Messrs. W. & T. Wills, of London, and the cost is 800 guineas.

Sulphur in Gas.—The experiments which have been recently made at the joint expense of three of the principal gas companies of the metropolis, and conducted by Mr. Vernon Harcourt and Dr. Siemens, in order to ascertain the best means of eliminating sulphur impurities from gas, have failed to be immediately productive of any practical result, and have been discontinued. The experiments were estimated to cost between 500*l.* and 600*l.*, but they have exceeded 3,000*l.*

The Abingdon Surveyor's Salary.—At a meeting of the Town Council last week the town clerk read a letter from Mr. William Townsend, the surveyor, asking for an addition to his salary on account of the increase of his duties. After some discussion, it was agreed to increase Mr. Townsend's salary as surveyor from 40*l.* to 50*l.* per annum, payable quarterly, on the understanding that Mr. Townsend should be subject to three months' notice.

New Congregational Chapel at Weston-super-Mare.—The memorial stone of the new Congregational Chapel, Weston-super-Mare, was laid on the 18th inst. by Mr. T. Rowley Hill, M.P. for this city, in the presence of a large assembly. The chapel now in use in High-street, which accommodates 350, having been found entirely inadequate for the attendance, it was resolved to build the new chapel, which is to cost between 7,000*l.* and 8,000*l.*

A New Cattle Mart in Perth.—A magnificent auction mart, erected by Messrs. Fraser & Macdonald, has been opened in Perth. The market is the largest in this country, and is very complete in its arrangement,—including in the building a spacious hotel, lodgings for servants, house for shepherds' dogs, stabling for 40 horses, and market space for 15,000 sheep and 1,500 cattle. The sheep-pens cover three-quarters of an acre.

Tenders for Bricks.—The Brighton Watch Committee have received five tenders for the supply of bricks, and they have accepted the following, the contract to include cost of delivery at the Corporation stores:—Messrs. J. Brace & Co., Funtley Works, Hants, 200,000, at 3*l.* 6s. 6d. per 1,000; Messrs. J. & R. Norman, Chailey, 50,000, at 3*l.* 9s. per 1,000; and Mr. John Gravett, St. John's Potteries, 100,000, at 3*l.* 8s. 6d.,—approved.

Good Service Pensions.—Mr. Douglas Galton has retired from the appointment of Director of Public Works and Buildings with a pension of 1,000*l.* per annum. His salary was 1,500*l.* per annum. The office of Director is not to be filled up. Mr. R. Redgrave, R.A., retires from the office of Director to the Art-Division of the Education Department with a pension of 750*l.* a year.

Fenton Town Hall.—The *South London Press* states that the Urban (Staffordshire) Sanitary Board have awarded the premium offered by them for public competition to Mr. J. W. Stevens, of 6, Wigmore-road, Camberwell, having accepted his design for the new Town Hall, police-station, engine-house, &c., to be erected at Fenton, Staffordshire.

Mr. David Campbell, Master of the School of Art, Worcester, has been appointed Professional Assistant Examiner for Art at the Science and Art Department, South Kensington. His departure from Worcester will be much regretted.

Statue of Sumner.—The Committee of Design on the proposed statue of Sumner at Boston (U.S.) threw open on the 2nd inst. the twenty-six models sent them by artists in response to their invitation. The models comprise the works of Millmore, Ball, Wood, Miss Hosmer, and others, and many of them are meritorious works of art.

Signs of Danger.—On Saturday, last week, some alarm was caused in High-street, Birmingham, by the falling of a large sign from the front of the premises of the National Clothing Company. Fortunately no serious injuries were sustained by persons in the street, two ladies, however, who were passing having a very narrow escape.

The Burning of the Liverpool Landing Stage.—The action against the Liverpool Gas Company by the Mersey Dock Board for the loss by fire at the landing-stage in July last year, was opened on Thursday in last week, before Baron Huddleston. The claim is for 200,000*l.* The liability of the gas company has been established.

Danger of Wooden Eaves.—A large corn warehouse in Gloucester has been burned down with a loss, by fire and water, of 25,000*l.* The fire is attributed to sparks from the chimney of the engine-house igniting the dry wooden eaves of the warehouse, which smouldered for a time and then broke into flame.

The Widow of the late Mr. Burchett.—A memorial, powerfully signed, has been presented, soliciting the grant of a Civil List pension to the widow (second wife) of the late Mr. Richard Burchett, the Principal of the Art-training School at South Kensington.

Sandown (Isle of Wight).—A stained-glass window, the gift of the Imperial Crown Prince and Princess of Germany, has been placed in the parish church of Sandown, Isle of Wight, in commemoration of their visit last season. The subject is Moses lifting up the brazen serpent.

A Statue of William the Conqueror is to be erected at Falaise. This statue, the work of M. Rocher, was finished in 1851, but, owing to lack of funds, could not be put into position until the present time. It is spoken of as very fine, is over 24 ft. high, and weighs seven tons.

Campden.—A contract for the restoration of the church has been entered into, and the work commenced. But the funds at present subscribed will not admit of engagements for doing all that is required. Messrs. Patman & Fotheringham, of London, are the contractors.

Stainland Cross.—This ancient cross, the only one remaining in the Halifax parish in anything like its former state, is to be restored at the expense of a gentleman resident in the neighbourhood. Mr. W. S. Barber, architect, Halifax, has the direction of the works.

Opening of new Churches in Cleveland. Two new churches were opened on the 20th inst. in Cleveland.

Wotton.—The work of enlarging Wotton Church has been entrusted to Mr. B. Inkpen, of Abinger.

TENDERS

For repairs to eight houses, Bridge-road, Battersea. Mr. S. Hewitt, architect:—

Dawson	£413 16 0
Richards	340 0 0
Copping	320 0 0
Pearce	280 10 0
Parrett	250 0 0
Feltham	250 0 0
Baker	250 0 0
Garrod & Smith	240 0 0
Short	245 0 0
Linfield	240 0 0
Haye (too late)	232 7 6
Simons	227 10 0
Vincent	208 0 0
Becker	196 0 0
Britton	175 0 0
Banner	169 10 0
Farley	165 0 0

For part rebuilding No. 7, New Compton-street, Soho, for Trustees of the late Mr. W. G. Nixey. Mr. S. Hewitt, architect:—

Macey	£819 0 0
Titmas	634 10 0
Cooper	633 0 0
Foxley	628 0 0
Patman & Fotheringham	583 0 0

For chapel, school-room, and class-rooms, at Newton Moor, near Manchester. Mr. J. Wills, architect, who also supplied the quantities:—

Robinson & Sons	£2,455 0 0
Marsden	2,396 0 0
Storrs (accepted)	2,169 0 0

For a tower and spire to St. George's Church, Tufnell Park, N. Mr. George Truefitt, architect:—

Carter (accepted)	£2,500 0 0

For additions and repairs to 79, Hamilton-terrace. Mr. George Truefitt, architect:—

Carter	£670 0 0
Bird (accepted)	640 0 0

For the erection of vinegar works, Peckham, for Mr. Woodham. Mr. Arthur Kinder, architect. Quantities by the architect:—

White	£2,479 0 0
Bartlett	1,903 0 0
Timewell	1,698 0 0
Hart	1,677 0 0
Unwin	1,668 0 0
Riley (too late)	1,649 0 0
Dover, Son, & Co.	1,645 0 0
Dunkley	1,633 0 0
Kirk	1,599 0 0
Bysh	1,563 0 0
Cropper, Brothers	1,555 0 0
Thomas	1,530 0 0
Aitchison & Walker	1,485 0 0
Kellaway	1,420 0 0

	Iron Girders.	Iron Columns.
Lucy & Co.	.....	£57 13 0
Macnaught, Robertson, & Co.	£56 17 6	.....
Clay	59 0 0	43 0 0
Head, Williams, & Co.	53 5 0	48 5 0
Gardner & Co.	53 3 0	46 0 0

For repairing roads and laying surface drains for the Swindon New Town Local Board. Mr. W. H. Read, architect:—

Phillips (accepted)	£596 1 0

For two semi-detached cottages at Broome Sewage Farm, for the Old Swindon Local Board. Mr. W. H. Read, architect:—

Haynes	£369 10 0
Barrett	366 18 0
Wiltshire	363 0 0
Thomas	345 0 0
Kent (accepted)	336 0 0

For Board-room, offices, and manager's residence, in Bath-road, Swindon, for the Swindon Water Company (Limited). Mr. W. H. Read, architect:—

	With Cellar.	Without Cellar.
Haynes	£1,150 0 0	£1,115 0 0
Phillips	1,065 10 0	1,041 0 0
Barrett	1,053 18 0	1,021 18 0
Wiltshire (accepted)	1,049 0 0	1,030 0 0
Forshaw	1,043 0 0	1,023 0 0

For office fittings, 24, Cannon-street. Mr. Saxtus Dyball, architect:—

Lascelles (accepted)	£1,186 0 0

For a dwelling-house at Upper Tooting Park, Surrey. Messrs. Wadmore & Baker, architects. Quantities supplied:—

Scrivener & White	£2,700 0 0
W. & F. Croaker	2,645 0 0
Colls & Sons	2,593 0 0
Downs & Co.	2,520 0 0
Bowyer & Sons	2,374 0 0
Messom	2,133 0 0
Wagner	2,093 0 0
Smith	1,997 0 0
Mitchell (accepted)	1,987 0 0

TO CORRESPONDENTS.

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